



Factors influencing the adoption and use of web-supported teaching by academic staff at the University of Adelaide

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Some respondents' comments

I think using web-based teaching resources is exciting but I haven't got time to learn and apply them.

Very time consuming initially, but very positive outcomes & most students very enthusiastic.

Why should students have to learn to use a parallel system when MyUni is working?

Why change? It's potentially better than online teaching aids and if it's the institutional direction it has merit as the primary benefit of [MyUni] is that it has public, institutional support whereas online – is on a shoestring with no resources.

I'd like to be able to do it myself.

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Abbreviations

ADU	academic development unit
ALN	asynchronous learning network
ASCILITE	Australasian Society for Computers in Learning for Tertiary Education
ATN	Australian Technology Network (universities)
CFL	computer-facilitated learning
CUTSD	Committee for University Teaching and Staff Development
EDU	educational development unit
FTE	full-time equivalent
ILT	information and learning technology
IR	interview recommendation
IT	information technology
IT	Information Technology Services
LMS	learning management system
LTDG	Learning and Teaching Development Grant
LTDU	Learning and Teaching Development Unit
TAFE	Technical and Further Education institution
PLATO	Providing Learning and Teaching Online (project)
RMIT	Royal Melbourne Institute of Technology University
UWS	University of Western Sydney

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Executive summary

This project was established in June 2002 to investigate and evaluate factors in the adoption and use of web-supported teaching among academic staff at the University of Adelaide. It has been supported by a Learning and Teaching Development Grant (LTDG). Initially the vision was to identify factors in the non-adoption of MyUni, the University's centrally supported learning management and materials development system. MyUni was piloted in Semester 1 2001, further developed in Semester 2 2001 and adopted as a whole-of-University system in Semester 1 2002.

The evaluation study was funded based upon the premise that the adoption of MyUni was beneficial to students, staff, administration, management and the University as a whole in the strategic plan for the University.

The slow uptake of MyUni and some observed resistance to migrating existing web-based courses to MyUni was the intended area of study. However, the study developed substantially to include not only factors related to non-adoption of MyUni, but also the beliefs and values about web-supported teaching and learning among three groups of University of Adelaide teaching staff:

- those who had never used web-supported teaching
- those who had adopted MyUni
- those who had adopted other web-based learning systems or platforms

The study also encompassed the reflections of these groups on what would be required to develop their use of MyUni and, for users of other systems, to migrate their courses to MyUni. For those who had used web-supported teaching their observations in relation to the impact of web-supported teaching on their students and on their own teaching were canvassed.

The methods used were semi-structured interviews and a survey of academic and administrative staff at the University of Adelaide.

The findings indicated that there were more staff who valued computers in higher education than were using them, and more teaching staff who valued web-based learning in higher education than were adopting it (table 11.2). The likely response to such a finding would be to develop strategies that minimise the 'gaps' for these staff.

Our evaluation process revealed that the reasons for these gaps were related largely to:

- time and workload
- concerns about the value of web-based learning for improving students' learning outcomes
- issues around the selection and stability of the University infrastructure and web-based learning management system, and integration of the different systems
- prioritising of teaching in the range of tasks against which an academic is monitored

Our evaluation revealed that the respondents' views of priorities in addressing these concerns related to further and more focused / accessible support for adopting and extending the use of web-supported teaching, and skills development for teaching staff. The support identified included:

- staff development and training
- IT and administrative support
- management support at all levels (including through policy and funding)

We acknowledge that the University already provides much support and training for web-supported teaching and MyUni through ITS and the LTDU.

The scope and development of the policies and professional development to address the particular needs of departments and faculties is beyond the scope of this stage of the study. The intended next stage of the study involves conducting focus groups to take the findings and recommendations of this report to departments and faculties, to validate the findings at a local level, and to discuss locally appropriate policies and strategies for staff development and other support. This stage 2 can be modestly undertaken within the TDG budget.

Our evaluation also revealed that there is continued use of web-supported teaching systems that exist parallel to the University's centrally supported MyUni learning management system. The reasons for this continuation often related to a different vision for web-supported teaching in a department's priorities. These different visions related either to a perceived 'lack of fit' between MyUni as an LMS and a department's needs, or to resistance to the University directive (achieved largely without consultation) to adopt MyUni after a department had introduced an alternative system.

The next section of the executive summary summarises the main findings of the interviews and sections of the survey. The final section summarises the recommendations.

Main findings

The main findings are summarised under headings that relate to the interviews, and the sections of the survey, which are as follows:

- Section A: About the respondents (all respondents)
- Section B: For respondents who had never used web-based teaching tools
- Section C: For respondents who had used web-based teaching tools
- Section D: Learning outcomes and values (for respondents who had used web-based teaching tools)
- Section E: Teaching outcomes and values (for respondents who had used web-based teaching tools)
- Section F: Future intentions about web teaching tools at the University of Adelaide (all respondents)

Interviews

Interviewees who were using MyUni or a parallel system both had well-developed arguments and rationales for their persistence with their mode of operation.

For interviewees who were using a parallel system their rationales were based on beliefs about teaching and learning, technology or the stability and features of their own platform compared with MyUni. They were concerned that MyUni could not meet their needs or could not be integrated with their system.

MyUni adopters countered many of the arguments of the users of other systems as all had previously been operating within similar parallel or simple web-page system. They summarised their beliefs with the suggestion that they were past proselytising the benefits of MyUni – that a centrally supported, stable and integrated system, despite myriad irritations, was preferable to multiple school or department-based systems:

Why should students have to use a parallel system when MyUni is working, and working well?

However, their advice was that the question of uptake should be resolved at the departmental level, and not University mandated.

The survey

Section A: About the respondents

Most survey respondents held full-time tenured or tenure-track positions, and most taught undergraduate courses. Compared with the University as a whole, the survey sample had an over-representation of tenured/tenure track staff, of less experienced (in teaching) staff, and of females. It is important to keep in mind that the sample was not representative of the whole University academic staff on these measures.

The use by survey respondents of web teaching tools was not matched by the value they placed on them, or by the knowledge they considered they had about MyUni, revealing a gap that may provide an opportunity for effective support activities.

Section B: For respondents who had never used web-based teaching tools

The survey found that respondents who had not used web-based teaching tools had a general desire to do so, and disclosed some of the barriers to their adoption of these tools. The survey responses also revealed some barriers to further use among respondents who had used web-based teaching tools. Prominent issues included:

- concerns about the quality of teaching and learning using web-based tools
- concerns about lack of skills and knowledge
- the need for staff development and training
- pressures of work inhibiting use of web tools
- the need for support from managers

The existence of these concerns among respondents does not imply that the means for their resolution does not exist within the University. It does suggest that respondents are not accessing available support for web-based teaching to an extent that meets their needs, and therefore that access to support could be improved. There may also be a need to modify, extend and focus the support provided.

Section C: For respondents who had used web-based teaching tools

The respondents who had used web teaching tools all taught undergraduate courses, and by and large had used MyUni, but other tools were also important. This group appeared to be early adopters of web-supported teaching, but their use tended to be mainly for communication and content delivery. There appeared to be lower use of the more interactive, advanced uses of these tools. There is an opportunity here for the provision of more accessible and more flexible support to foster more advanced uses of web-supported teaching.

In their comments respondents showed an appreciation of the time / workload and efficiency benefits that could be achieved for themselves using web teaching tools. Their comments also indicated that many respondents were aware of student benefits, although in other parts of the questionnaire they also expressed concerns about learning outcomes and other student benefits. An interesting subgroup felt they had used web teaching through reasons outside their own control.

Section D: Learning outcomes and values

While most respondents who had used web-based teaching considered that this mode of learning and teaching had benefited their students, a considerable minority did not, or were uncertain, indicating a possible need for respondents to use more or more focused student evaluation in their courses.

Respondents considered the benefit to students to be evident mainly in the development of generic skills, particularly IT skills and independent learning. They were less certain (although they still gauged a positive impact) about the development of lifelong learning skills and whether web-based teaching had had an effect on links with employment. In terms of equity and access issues for students, respondents were most concerned about University infrastructure and access to and cost of printing.

Thus, while the respondents in general felt their students had benefited from web-supported teaching and learning, at the same time they were aware of the issues students are likely to face, including the limitations of and access to adequate infrastructure to support positive outcomes for students.

This section raises the need to improve infrastructure and student access to it, and an opportunity to promote the embedding of the University's graduate attributes program into web-supported teaching.

Section E: Teaching outcomes and values

Respondents who had used web-based teaching tools considered overall that there had been a benefit for their teaching, and there was an overall increase in IT skills, pedagogical skills and teaching confidence. Respondents were also positive overall about institutional support provided in a number of areas. Many also recognised the benefits of experience, and some distinguished time and workload efficiencies and benefits for students, especially in some courses and for some types of students.

At the same time respondents reported a greater time and workload required for several aspects of web-supported teaching and the predominant concerns expressed in the open comments were about time and workload.

The findings in this section also supported the previous finding (in section C) that many respondents had not used online assessment or assessment management, and the issue of copyright was raised.

The need is indicated for support to relieve teaching staff of the extra time and work involved in development and provision of high-quality web-supported teaching. There is also an opportunity to promote the findings concerning respondents' views about benefits.

Section F: Future intentions about web-based tools

Most respondents intended to use MyUni in the future for web-supported teaching, whether or not they had used it in the past. There was also a significant proportion who intended to use other systems, in addition to or instead of MyUni. Commonly, respondents were keen to increase their use of MyUni, to more of the basic features or to more advanced, interactive uses, particularly in relation to assessment and assessment management. A need is indicated here for support for users of parallel systems, and for collaborative investigation of real or perceived barriers to integration with or adoption of MyUni by this group.

The perceived barriers to respondents' adopting MyUni to a greater extent included concerns about the quality of the learning and teaching possible using web-supported teaching, time and workload pressures, copyright concerns, and various aspects and levels of support.

The next section of the executive summary distils the recommendations that arose from the findings of the survey and interviews.

Recommendations

The preliminary recommendations that arose from the findings are reported in detail in chapter 4. The recommendations relate to a variety of types and levels of needed support that were suggested by the findings. In this section the recommendations are distilled from the preliminary recommendations and organised according to types of support that were perceived to be needed.

The numbers square brackets at the end of each recommendation indicate the preliminary recommendation/s from which they arose. The original recommendations are numbered according to the survey questions which gave rise to them; for example, recommendation 45.1 is the first recommendation to arise from question 45 of the questionnaire.

Staff development and training

Recommendations about staff development and training fell into four main sections:

- Subgroups of teaching staff
- Levels and types of use of web-supported teaching
- Access, variety, flexibility
- Evaluation

Subgroups of teaching staff

- 1 Provide more or higher priority staff development and training in using web-supported teaching for subgroups of teaching staff within the University, and for different delivery modes and student groups [8.1, 44.2], including the following:
 - 1.1 staff at different levels of adoption of web-supported teaching and MyUni, from non-use to more advanced levels of use [IR 4, 13.1, 15.2, 20.1, 65.2]
 - 1.2 staff on regional campuses – these staff may find it difficult to travel to North Terrace Campus for training and staff development [interview recommendation (IR) 1]
 - 1.3 different faculties, departments and disciplines – while there is a common core of good practice in relation to web-supported teaching, these groups have different needs in relation to their disciplines, programs and types of courses [IR 4, 44.2]
 - 1.4 teachers of undergraduate students – direct staff development and support in the first instance towards the needs of undergraduate teaching – as those teachers also have responsibility for postgraduate teaching [2.1, 22.1]
 - 1.5 teachers of postgraduate students – explore means of increasing the use of web-supported postgraduate teaching where appropriate to enrolment profiles and numbers, and to programs. [22.2]
 - 1.6 new teaching staff – Incorporate familiarisation with the use and benefits of web-supported teaching into the Teaching at University course offered by the LTDU. [8.2]
 - 1.7 casual and contract staff [5.1]

Levels and types of use of web-supported teaching

- 2 The findings suggested the need for staff development and training for the following types and levels of use of web-supported teaching:
 - 2.1 more advanced features of MyUni – interactive features (discussion groups, multimedia etc) to facilitate student learning; features of MyUni for course administration and management to gain efficiencies; assessment and assessment management [21.1, 21.2, 45.4, 71.2, 71.3]
 - 2.2 staff development /training and support to minimise the gaps between the value placed on electronic resources and the extent of their use [11.1]
 - 2.3 the pedagogical aspects of web-supported teaching and MyUni [21.3, 71.1]
 - 2.4 embedding web-supported teaching into undergraduate courses and the curriculum [22.1]

Access, variety, flexibility

The findings suggest that, for a variety of reasons, many teaching staff do not have access to adequate staff development and training:

- 3 Provide a greater variety of opportunities for staff development and training, and provide a greater variety of support; for example, short, specific workshops, refresher courses before the beginning of semester, sharing of experiences of current staff who have used web-supported teaching, provision of templates [9.1, 71.1, 72.1]

Evaluation

- 4 Promote and develop more widely among teaching staff the effective use of evaluation (including SELTS) and seeking feedback from students about their learning experiences, particularly in relation to web-supported teaching. [25.1, 43.1]

Tools and infrastructure

A variety of issues arose in the findings in relation to tools and infrastructure. Implicit in these issues was the need to continue to improve tools and infrastructure, and access to them:

- 5 Integration – support the integration of other web teaching tools with MyUni. Consult with staff who use other systems that have already been developed: a more consultative approach could support and supplement both the functionality and the extent of use of MyUni. [IR 2, 17.2, 69.1]
- 6 Access for particular groups – acknowledge and support the needs of different faculties, departments and schools in relation to hardware, software and infrastructure, and student needs [IR 4]
- 7 Student printing – Ensure that staff and students understand the student printing quota system, and provide ways of facilitating its use. Assess the adequacy and effectiveness of the student printing quota system. [41.1]
- 8 Better tools – Develop more online resources (such as Java-supported activities) within the University to support interactive exercises, and provide support and training in their use. Enhance the capacity of MyUni to provide interactive and multimedia materials. [71.4, 71.5]

Outcomes, quality, benefits

- 9 Awareness – Seek to increase understanding of the benefits for students and staff, and the processes, of using MyUni and the internet to support teaching, especially among those who are undecided about their future use of web-supported teaching, those who have not used web-supported teaching, users of parallel systems. Such a program might highlight the experiences of teaching staff more experienced in web-supported teaching. [7.1, 13.2, 14.1, 15.3, 17.1, 25.2, 43.2, 44.1, 45.3]
- 10 Graduate attributes – Focus some staff development on how web-supported learning and teaching can support the University’s graduate attributes program. [26.2]
- 11 Research – Support further research into the ways in which web-supported teaching and learning can benefit particular groups of students, modes of delivery, programs and courses. This would enable focusing of scarce support and staff development resources into areas where the returns were likely to be worthwhile. [44.3]
- 12 Time efficiency – provide activities and resources (for example, easy-access tips) about effective use of online teaching tools, including communication tools, to gain time and workload efficiencies. [64.2]

Other support

The findings indicated that many teaching staff do not have adequate access to adequate some other types of support, even if it is available.

Use of current resources

- 13 Promote the University’s current support for internet use in teaching, including resources and support provided not only through staff development but also through the University website, the Barr Smith Library, search resources, off-campus library sites and other existing resources. [7.2]
- 14 Promote the use of MyUni through staff development and in other ways, including University information resources such as Inside Adelaide, and by showcasing effective and innovative uses of MyUni to support learning and teaching. [12.1]
- 15 Investigate ways in which teaching staff can access more fully the support provided by the University for the development of web-supported teaching, especially in relation to staff development/training. [16.1, 65.1]

Policy and strategy

- 16 Integrate and make readily visible and accessible to staff, current and future support for web-supported teaching and learning through policies and strategies for its adoption and increased use. [7.3]
- 17 Establish a structured pathway for teaching staff to develop the use of web-supported teaching and embedding it into the curriculum and regular teaching practices. Consider accreditation for such structured staff development. [8.3]
- 18 Investigate more closely the types and extent of support needed by teaching staff from different disciplines, with different levels of experience of web-supported teaching and at different stages of developing web-based materials for particular courses or programs. Consider the most cost-effective way of providing such support. [73.2, 73.3]
- 19 Develop strategies to facilitate staff having the time to learn new skills, to incorporate web teaching into their normal teaching cycle, and which acknowledge the greater time

and work involved in developing, delivering and managing high-quality web-supported teaching and learning. Such strategies might include time release, encouragement from local managers, instructional design guidance and the provision of support staff to produce content. [15.1, 45.1]

Faculty and department managers

- 20 Raise awareness of the potential benefits of web-supported teaching, and the time and workload costs, among school, department and faculty managers. Increase (or increase the visibility of) management support at those levels for web-supported teaching. Provide structured University-wide support (policy, strategies, advice about effectiveness and rewards) for managers to facilitate web-supported teaching in their areas. [16.2, 45.2, 72.3]

Information Technology Services

- 21 Encourage ITS to work actively to dispel the notion that it is autocratic and non-consultative, and to change the notion in some areas of the University that ITS 'delivers' without adequate consultation of needs, requirements and sectional differences.

Copyright

- 22 Give high profile to further information sessions about the new copyright laws as they relate to use of online resources in teaching, promote understanding and use of the University's Digital Resources Management Centre, and further develop support in relation to use of digital resources. [64.1]

1 Introduction

Background

The University of Adelaide has devoted considerable time, money and expertise to selecting and developing an online learning and teaching platform. The University trialled the enterprise-level online learning system Blackboard version 5.0 (Blackboard Inc 1997–2000) through a pilot project titled ‘PLATO’ (Providing Learning and Teaching Online) in 2001. The scope of the pilot project was extended from 19 online courses in Semester 1 to 98 in Semester 2 2001.

All courses involved in the pilot were evaluated, with a focus on technical matters relating to their online delivery via Blackboard (University of Adelaide 2001). Further evaluation was undertaken for a selection of courses – three in Semester 1 and 10 in Semester 2, focusing on the improvement of students’ learning outcomes and issues relating to the adoption of the system respectively. The in-depth evaluation undertaken in Semester 1 2001 was supported in part with funding from a Commonwealth University Teaching and Staff Development Organisational (CUTSD) grant shared by the School of Architecture, Landscape Architecture and Urban Design at the University of Adelaide and the School of Architecture and Building at Deakin University. In Semester 2, 2001 an in-depth evaluation of ten courses was conducted across the University by the Online Learning and Teaching Unit (see Shannon and McHolm 2002).

Towards the end of the PLATO project a decision was made to adopt Blackboard as the University’s online learning system, Blackboard version 5.5.1 was adopted in December 2001, and a target was set to provide an online component for all courses in 2002. The system mediates student access to courses based on enrolment data held within the University’s PeopleSoft student administration system. The term ‘MyUni’ was adopted as a label for the various online services provided within this initiative.

In Semester 1 2002 there were approximately 2500 courses listed in the MyUni course catalogue in which students were enrolled, and approximately 350 (14 per cent) were populated with content in addition to that automatically uploaded from the University’s administration. In Semester 2 2002 of the 2500 courses in which students were enrolled 382 (15 per cent) had some content added by instructors (MyUni statistics, Danielle Hopkins, personal communication May 2003). The distribution of content (number of documents in a course)¹ in MyUni courses in week 5 of Semester 2, 2002 can be seen in figure 1. The vast majority of courses had less than 20 course documents, reflecting the high proportion of courses that did not actively use MyUni. Among those with added content, 333 had 30 or more documents, indicating that in these courses instructors were actively using the content features of MyUni. Figures on use of discussion boards, announcements and other interactive or administrative features were not available when this report was being written.

¹ A ‘document’ was considered to comprise content added to any of the following sections of MyUni: Course Information, Staff Information, Course Materials, Assignments.

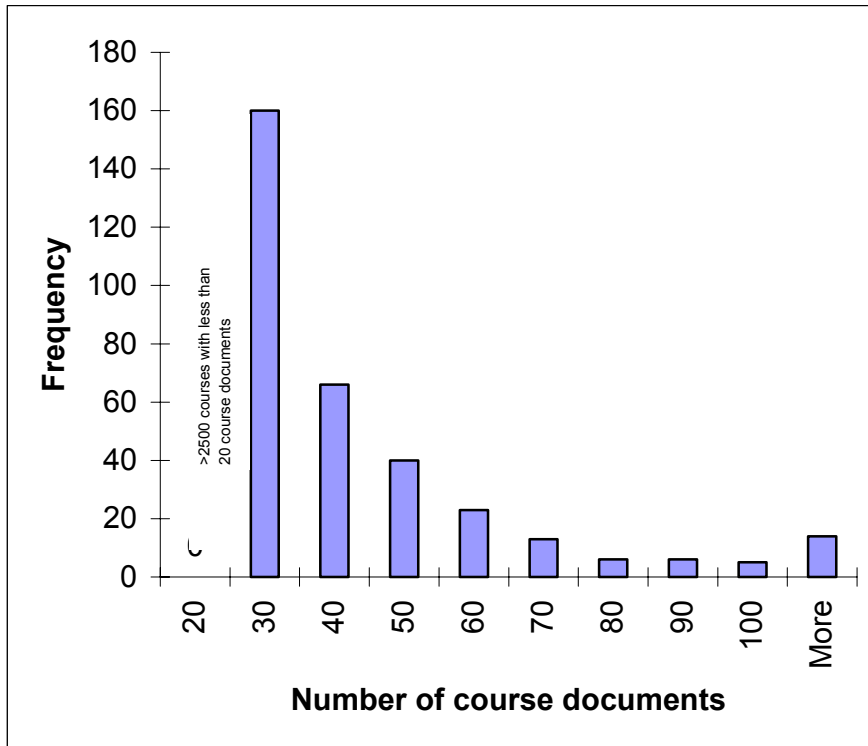


Figure 1 Distribution of course content in MyUni in week 5, Semester 2 2002

Note: Source: Dan McHolm, personal communication, 27 May 2003

In week 5 of Semester 1 2003 the numbers of courses with 30 or more documents had increased to 429, but still the vast majority had less than 20 documents (figure 2).

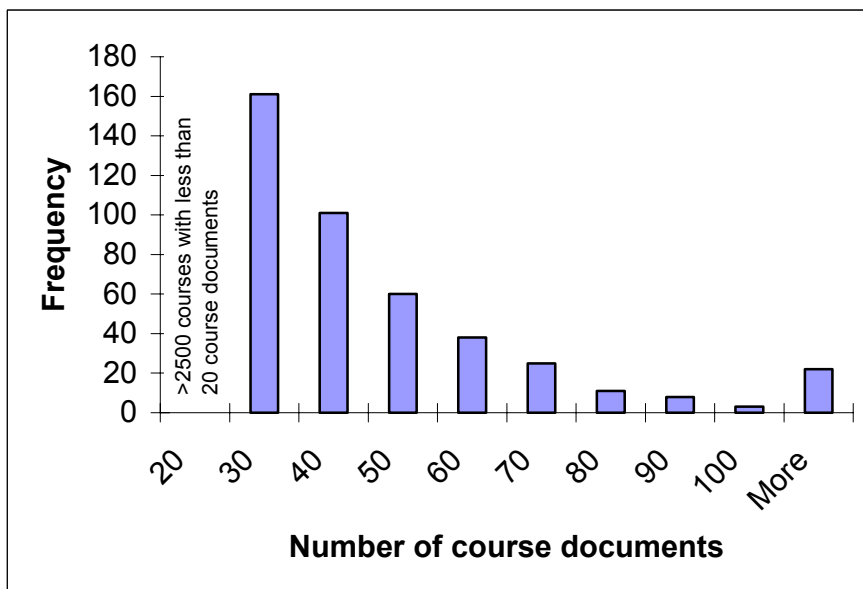


Figure 2 Distribution of course content in MyUni in week 5, Semester 1 2003

Note: Source: Dan McHolm, personal communication, 27 May 2003

In the *Adelaidean*, February 2002 (11:1, pp 1, 3) the article ‘Online learning a first for students’ stated that in 2002 there would be an online presence for each of the University’s 2500 courses and that:

...by using MyUni, students can:

- receive course material online such as lecture notes and assignments;
- discuss their work with other students and staff via email and discussion boards;
- receive reminder messages for lectures, tutorials and major events;
- hand up assignments and view their results;
- and make use of such other personal tools, such as task lists and calendars.

In spite of such ambitious targets, support from senior management and substantial investment, the potential benefits to staff and students from using from MyUni remained largely unrealised in mid-2002 when this project was initiated.

On 18 June 2002 a University of Adelaide Learning and Teaching Development Grant was awarded to Susan Shannon to investigate factors that influence the adoption of MyUni by academic staff at the University of Adelaide.² An underlying premise of the receipt of this grant is that senior management supports the widespread adoption of a University-mandated and centrally supported learning management system. This project seeks to obtain and analyse information from University of Adelaide staff (and administrators) to identify obstacles to the widespread adoption and use of MyUni at the University.

The project has an institution-wide focus and builds upon the focus group process undertaken in Semester 2, 2001 as part of the PLATO project to discover issues for students and staff in the adoption of MyUni.

Based on the results of the in-depth interviews and the survey of teaching staff, and supported by a literature review, the current project has developed recommendations to enhance wider adoption and greater use of MyUni, thereby helping the University to maximise its return on investment and ensure that the potential benefits are more equitably shared across the University.

Once the factors that influence the adoption and use of MyUni are discovered and evaluated and recommendations made, management decision-making to support further development of web-supported teaching and learning will be better informed.

The researchers have a relatively broad general knowledge of initiatives at the University in relation to the adoption of web-supported learning and teaching, but it is outside the scope of this project for the researchers to amass an in-depth knowledge of policies and strategies that are currently in place or being developed in this area. Therefore, because the recommendations derive directly from the current project, it is possible that, in some instances, initiatives and strategies that could flow from the recommendations are already being developed at the University.

The research question

The initial focus of the current research project was to identify barriers to the adoption of MyUni by academic staff at the University of Adelaide. From the literature canvassed early in the project and from early interviews it was quickly evident that issues concerning not only

² The application for the Learning and Teaching Development Grant can be accessed from the DVCE’s web page ‘University Learning and Teaching Development Grants 2002’ (http://www.adelaide.edu.au/DVCE/quality/grants/l&t_development_2002_winners.html).

the *adoption* of web-supported teaching but also its development and use were important to teaching staff. Indeed it became clear that ‘adoption’ was not something that occurred as a one-off event, and that academics’ use of web-supported teaching tools involved ongoing decisions about the extent and depth of their use of these tools. There was a complex web of ‘barriers’ and ‘motivators’ that influenced these decisions.

Thus the research question that motivated the development of the survey instrument and later interviews was in two parts:

What are the factors that influence the adoption and further use of web-supported teaching tools by teaching staff at the University of Adelaide?

How can University decision-making be informed by these factors?

A note on terminology

In this report the term ‘teaching staff’ is used rather than the more general ‘academic staff’, to reflect the focus of the current research. Similarly, terms such as ‘web-supported teaching’ and ‘web-based teaching’ are not intended to imply a ‘teacher-centred’ position on the part of the researchers, but again reflect the focus of the project on web-supported teaching.

Finally the term ‘web-supported teaching’ itself is intended to encompass any level of use of the internet to support teaching. It was chosen over ‘web-based teaching’ (which was used in the survey instrument) in the presentation and discussion of findings, while ‘web-based teaching’ is used when referring to questions in the instrument.

Scope of the project

This project, supported by a Learning and Teaching Development grant, was necessarily limited in scope by its timeline and budget. The available resources for the project have been used to undertake in-depth interviews, conduct a literature search and survey all academic staff at the University about factors that influenced their use of web-supported teaching tools. The data collected have been subjected to simple descriptive analysis, and the findings and recommendations reported.

Focus groups, set up in consultation with faculty IT committees, will be conducted after feedback on the report’s recommendations has been received from University management. Using information from this feedback, the focus groups will seek a clearer understanding of staff views concerning how the University can support them to use web-based teaching more effectively.

Structure of the report

The executive summary provides the main findings from the survey and interviews and distils the recommendations that arose from the findings. The introduction (chapter 1) provides the background to the study and states the research question to be addressed. The report next presents a review of relevant literature relating to the adoption, use and management of technology in education, particularly the use of web technologies (chapter 2). Chapter 3 describes the methods used in this project to investigate issues surrounding the adoption and use of web teaching tools and web-supported teaching at the University of Adelaide. In chapter 4 the research findings from the interviews and the survey are documented in detail, and preliminary recommendations are made as they are suggested by the responses to the survey questions. In chapter 5 the findings are summarised and discussed. Chapter 6 concludes the report with some policy suggestions. The appendices present supporting material that is relevant to the methods and findings of the study.

2 Review of literature

Introduction

The focus of the current research project is to identify factors that have influenced the adoption and use of web-supported teaching tools by academic staff at the University of Adelaide. Hence the initial focus in reviewing the literature was on factors that were important to individuals. This also uncovered institutional factors, which in most instances related to concerns and issues that individual academics expressed. Thus, this review is structured in terms of concerns of, or about, individual academics. Factors which are important at the institutional level are canvassed and discussed in terms of what the literature suggests about how individual academics' concerns might be addressed.

Sources for the review of literature were mainly available online and included (but were not limited to):

- the Association for the Advancement of Computing in Education (AACE) database
- the EdNA (Education Network Australia) database
- journals, including but not limited to *Educational Technology & Society*, the *Journal of Asynchronous Learning Networks* (JALN), the *Australian Journal of Educational Technology* (AJET), *ultiBASE*
- National Centre for Vocational Education and Training (NCVER) publications
- VOCED, a web-based international database of abstracts on vocational education and training research
- proceedings from ASCILITE, AusWeb, HERDSA, EdMedia conferences
- online newsletters such as OLDaily
- keyword searches using the Google search web site

There is little accessible information relating to the adoption and use of web-supported teaching at the University of Adelaide. In contrast there are many studies that can shed light on the factors that affect adoption and use of web teaching tools in the school, vocational education and training, and higher education sectors. Several studies or reviews canvass a range of issues in these sectors (for example, McNaught et al (2002) and Schifter (2000) in universities; Brennan et al (2001) in the VET and higher education sectors; Dooley (1999) in schools).

McNaught et al (2000) used five case studies to investigate factors that supported or inhibited the uptake of computer-facilitated learning (CFL) in Australian universities. They included:

- issues that related to policy and the management of policy change
- issues related to personal motivation of staff to use computer-facilitated learning, staff rewards, incentives, recognition and time, attitudes such as 'not invented here'
- teaching and learning models (the nature of the course, experience with distance mode, attachment to traditional teaching modes)
- support issues including IT, library and administrative infrastructures, provision of support staff, leadership, educational and instructional design support
- professional development and training for staff
- lack of time (even if otherwise motivated)
- lack of knowledge, IT literacy

- pressure to keep up the research quantum
- issues of funding (including funding for maintaining/updating computer-facilitated learning materials and approaches , staff time release)
- intellectual property/copyright

Dooley (1999, p. 35), in an article that reviews diverse literature on factors affecting adoption of educational technology in schools, identifies several ‘uncertainties’ concerning the benefits of technology and the changes that its adoption necessitates:

- the need for technical support
- pedagogical and instructional management issues
- professional development of teachers
- network infrastructure
- costs of all components

Dooley (1999, p. 37) also summarises (from Latham 1988) characteristics that ‘seem to explain’ why innovations fail:

- practitioners are disenchanted and disillusioned because the innovation is more difficult than expected and it causes too much change and takes too much time
- innovation supporters depart
- personnel lack training and enthusiasm
- funds run out
- there is a ‘take-it-or-leave-it’ attitude

Brennan et al (2001, pp. 55–56) reviewed research on online delivery of education and training in Australia, and summarised key issues for teachers relating to the growth of online learning as follows:

The changes brought about by online teaching and learning have created considerable new demands for teachers and trainers. The contexts of their work have changed and the skills demanded have altered accordingly (Bull et al. 1999). Teachers and trainers are not just pasting a new set of tasks onto existing practice. The nature and understanding of the role of teacher/trainer is in a state of adjustment, and often this is taking place amidst very patchy staff development. The extent to which teachers and trainers can adapt to the new work environment, and transfer their skills from one context to another, is often compromised by the confusing inflated public claims about the value of technology and their acute perceptions that all the changes have delivered, are increasing workloads.

Schifter (2000) found that factors that motivated staff in higher education to use asynchronous learning networks (ALNs) and those which inhibited their use were not the same. Among staff who already used ALNs *and* those who didn’t, motivating factors were similar, and included **intrinsic factors** such as:

- personal motivation to use technology in teaching
- opportunity to improve teaching or develop new ideas
- opportunity to diversify course offerings
- greater flexibility for students

Administrators, on the other hand, considered that teaching staff would be motivated by **extrinsic factors** – those that related to administration support and encouragement or which benefited the individual staff member.

Teaching staff and administrators agreed that factors that inhibited the use of ALNs included:

- lack of technical, infrastructure and course development support

- concern about workload
- lack of time release
- concern about the quality of courses
- lack of funds ('grants') for materials and expenses

From this overview, many of the factors that have been seen to influence the adoption and use of web-supported teaching tools can be collected under the following broad headings:

- workload
- time
- knowledge and skills
- staff development and training
- tools and infrastructure
- recognition and rewards
- conceptions of teaching and learning, including concern about the value of technology, definitions of academic work in relation to teaching, and the quality of learning and other student outcomes
- support provided by the institution, including IT support and management and policy support

We shall now consider what the literature offers in relation to each of these groups of factors.

Workload

Many of McNaught et al's (2000, p. 147) respondents considered that workload was a major inhibitor of the adoption of computer-facilitated learning. 'IT has to be factored into workloads, not just put on top as an extra'. Brennan et al (2001, p. 57) also found in the research literature that workload was a major issue in the current cost-driven higher education sector, where adding 'technology' is often mandated at a policy level.

Rumble (2001) found consensus in the cost-related literature that online communication with students adds to academics' workload given the large amounts of 'messaging' and the greater time each message takes to compose than in verbal communication. Teaching staff were also concerned about the additional workload ('space and energy') involved in learning new skills and practices (Brennan et al 2001).

Dooley (1999, p. 39) found that 'information or innovation overload and burnout' is an impediment to adoption of technology by teachers.

Another way in which time and workload pressures are expressed is through conflicting priorities. Scribbins (2002) found 'resistors' to using information and learning technology who blamed conflicting priorities. Oxford Brookes University (2002) staff also experienced conflict between workload and their intrinsic motivation to get more involved in online course development, and some suggested that their school did not encourage their involvement because they valued research more highly than teaching innovation.

Time

Time is also a factor that appears in the literature, often discussed together with workload, in relation to the adoption of web-supported teaching. Lack of time is often given as a reason for non-adoption of web-supported teaching tools, even if staff are otherwise motivated (for example, McNaught et al 2000). Hansen and Salter (2001) surveyed staff at the University of

Western Sydney about adoption of an online learning system, and found that ‘the bulk of the teaching staff had reservations [about] spending the time and effort in learning how to produce and author web based material’.

Scribbins (2002) found instances of staff in the further education sector in the United Kingdom not having time to learn the new skills required to use information & learning technologies, and simply not having time to put content on the intranet. At Oxford Brookes University (2002), even staff experienced in online learning and teaching were commonly concerned about the time constraints of developing an online course.

Brennan et al (2001, p. 47) also identified ‘the expanding time impositions that come with the new and more interactive technologies’ as a major concern for academics. Alexander and McKenzie (1998) found that many staff involved in 104 projects that used information technology to develop learning materials ‘incurred a high cost in terms of time, resulting in a loss of research and personal time’; for some this had ‘a negative impact on their opportunities for promotion and tenure’. Felix (2002, p. 50) found that ‘even the most enthusiastic teachers continue to find that not only is the production of good quality materials time consuming but also that monitoring students’ contributions to discussion groups, organizing cooperative activities and answering student email enquiries can be overwhelming’ (Felix 2002, p. 50). Successful projects allowed team members ‘adequate time to carry out their roles and responsibilities in the project (eg. through release from teaching)’.

Several authors have noted that change often fails because insufficient time is allocated to it, and suggest that teachers need time to absorb information (about technology), try it out in their teaching, and then ‘come back for more discussion’ (Dooley 1999, p. 38; Scribbins 2002, p. 13). In another way of looking at the same issue, McNaught et al (2000) found:

The transition towards effectively integrating technology into the teaching and learning environment ... depends critically on setting realistic and achievable timelines. Given we are attempting to change culture and attitude it must be seen as a long term process which flows and fits well with how the academic community functions. (McNaught et al 2000, p. 147)

Dooley (1999) suggested that training and professional development require release time, and should not be provided just as an add-on to existing duties. Drysdale and Creanor (1998) also found that lack of time release contributed to less than satisfactory outcomes for staff development about online learning and teaching. Scribbins (2002) noted that much development of online learning and teaching materials was being done ‘on a voluntary basis’ and recommended staff replacement time to develop materials and teaching plans.

Gruba (2001) studied staff development needs in relation to IT in the Arts Faculty at the University of Melbourne and found that, ‘tied to each and every one of the issues we found was simply the fact that the development of decent IT materials takes time’, and that those who had funding (and therefore time [release]) could put materials online and gain the technical and pedagogical skills to do so.

Gruba (2001) also identified the difficulty in scheduling workshops as a barrier to effective staff development: in both teaching and non-teaching periods staff found it difficult to find time to attend workshops. As a partial solution to this Gruba’s team scheduled longer workshops during non-teaching periods, and offered multiple presentations and a regular bi-weekly training afternoon during semesters. McNaught et al (2000, p. 128) also found that the time staff needed to undergo professional development was a problem and recommended that it ‘be recognised as part of the academic workload’.

Another dimension of the time issue is the observation that a considerable time lag is required for the widespread adoption of new educational ideas (Dooley 1999, p. 36, citing diffusion research by Rogers 1983). Hansen and Salter (2001) observed the adoption of an online teaching support system at the University of Western Sydney over four semesters, and found that adoption was taking place incrementally: initially the main attraction to their in-house system was ease of access to supporting administration such as subject and tutorial lists. This was followed by staff using the system for mainly static subject content, and then by the use of online assessment methods (such as student uploading of assignments and an online markbook); online quizzes and discussions were slower to be adopted.

At an institution or faculty level, McNaught et al (2000) found that time given to getting processes and procedures in place to support and promote computer-facilitated learning, and making these known and understood, was a factor that supported adoption.

Knowledge and skills

In their review of the research literature on online delivery of education and training, Brennan et al (2001, p. 48) found that many higher education teachers felt disenchanted in the current environment, which tends to evaluate effectiveness according to technological skill rather than teaching ability.

A number of studies were found in which resistance to upgrading knowledge and skills (due to workload and policy driven change) was a 'significant factor impeding the implementation of new delivery strategies' (Brennan et al 2001, p. 57). Gruba (2001, p. 226) identified anxiety as a central theme in relation to staff development in the use of online technologies, evidenced by the 'embarrassment of being perceived as technologically illiterate'. Dooley (1999, p. 38) observed that when teachers lack confidence in their ability to adopt an innovation they tend to ignore it.

The literature suggests that lack of knowledge about computer-facilitated learning is a significant factor in non-adoption (McNaught et al 2000, Breen 2001), and many academic staff still struggle 'to understand and use digital technologies (Gruba 2001). Salter and Hansen (1999) suggested that some academics 'actively scorn' new attempts to use technology in teaching. Gruba (2001) found that this kind of attitude often stemmed from anxiety about lacking skills.

Scribbins (2002) noted staff uncertainty about their use of an online learning and teaching platform because of lack of skills. Breen (2001) found that use of computers and web-based learning tools in teaching, and having good general computer skills, were significantly related to the adoption of the new Oxford Brookes University online learning platform. Hansen and Salter (2001) found that, among teaching staff at the University of Western Sydney, the major perceived problems in relation to moving their teaching mode to the web (as a supporting mode) were learning of web technologies and utilising their legacy material'.

Brennan et al (2001) identified proficiency with technology as an important issue in the adoption of online technologies for learning and teaching. People over the age of 27 reported stress and anxiety associated with using new technologies, and the average age of teachers is around 45 (Brennan et al 2001, p. 47).

Thus, new skills beyond technical skills are needed for teachers to be able to develop and deliver online course components and student support and communication. These skills include:

- planning and team skills

- pedagogical design skills
- assessment and evaluation skills (McNaught et al 2000, p. 30, citing Alexander and McKenzie 1998)
- group interaction and student–teacher dialogue (Gruba 2001)

Scribbins (2002) notes that teaching staff in further education in the United Kingdom who had confidence and skills in using ‘common packages’, still expressed the need for staff development in using information and learning technology in their teaching practice.

Staff development and training

Most studies find lack of staff development to be a major issue retarding the uptake and successful use of information technologies to support learning and teaching (for example, McNaught et al 2000; Scribbins 2002; Lines 2000; Guthrie 2003). Professional development and training:

... is recognised almost without exception as playing a critical role in the effective use and uptake of CFL. (McNaught et al 2000, p. 141)

Training is needed in technology literacy/technical knowledge:

Training staff who can maintain and use the complex systems that universities are currently developing is a major issue. Training programs must encompass the training of IT staff to maintain these systems, and the training of academic and administrative staff who will use these systems. Training needs are escalating and may well become a critical issue in the near future. (McNaught et al 2000, pp. 37–38)

However, many studies are concerned about the relative emphasis on training in the use of technology and the embedding of technology use into teaching and learning practices. For example, staff surveyed in one faculty wanted to de-emphasise training in technology use (and have more technical support available), and focus more on staff development that dealt with using technology in teaching (Gruba 2001, p. 228).

Scribbins (2002) observed the process, content and effect of a range of staff development initiatives in further education in the United Kingdom, and found a ‘clear need for substantial staff development built around a shared understanding of what constitutes good practice and what skills are needed to bring it about’. She found that staff development helped to create enthusiasm and motivation for information and learning technologies as well as the necessary skills, and recommended a mix of approaches, including workshops, materials and other resources to develop skills in using information and learning technologies, and faculty or school-based mentoring and projects.

Oxford Brookes University (2002) staff noted the need for more expertise within the University to ‘enhance staff motivation’, as well as to develop ‘the plethora’ of new technical and pedagogical skills required for online course development. They also called for more opportunity for contact with others involved in developing online materials.

Concerns about workload, and definitions and loss of work, are often discussed in association with the issue of staff development and institutional support for it. Brennan et al (2001) concluded, having found that academic teachers were concerned about the lack of staff development and support, that teachers needed new teaching and communication strategies, as well as technical skills. The research literature indicates that academics need individual as well as generic (including online) and group support to help them come to terms with the technical and ‘pedagogical dimensions of their newer roles’ (Brennan et al 2001, p. 58).

Further, ‘new competencies’ have to be encouraged and planned for (Brennan et al 2001, p. 58). Teachers need to learn how to integrate technology into the teaching and learning

process, and not simply receive training in the use of technology (Dooley 1999; Dooley et al 1999).

What doesn't work is staff development as an add-on to other duties, or delivered in 'one-off formats' (Dooley 1999). Staff in Gruba's (2001) faculty wanted ongoing staff development with ongoing funding, rather than using 'soft', project funding for short-term workshops. They also preferred department-based workshops where they 'could better build opportunities for collaboration and collegial assistance', over cross-faculty staff development.

Guthrie (2003) specifies that the need for staff development is recognised in the areas of:

teaching, use of technologies, seeing what others are doing, keeping up to date with new developments in a fast-moving field, resource development and, importantly, the development of adequate levels of written and other communication skills for the online environment. The research also found that teachers need training in assessment, evaluation and online facilitation, especially in the management of self-paced groups. (Guthrie 2003, p. 11)

Tools and infrastructure

Australian universities are making significant financial commitments to investing in tools and infrastructure to support online learning (for example, McNaught et al 2000). For example, RMIT committed to investing \$50 million over five years from 1998 into electronically mediated flexible learning systems, including IT infrastructure, a distributed learning system, student administration systems and 'extensive staff development' (McNaught et al 2000, p. 24).

Nevertheless, the tools and infrastructure provided by institutions to support technology use in learning and teaching were a common issue in the literature.

Hansen and Salter (2001) found that University of Western Sydney staff were concerned about several technology and network issues in relation to new online teaching and administration systems, namely student access, bandwidth, the need for multiple passwords to access various websites, and available computer facilities. Scribbins (2002) also found that lack of access to computers and network down time increased resistance to using technology. She also found cases where staff found it difficult to supervise students in large open-access IT areas, and that students expected them to understand all the software on the computers.

Limitations of the proprietary system

McNaught et al (2000, pp. 21–23) noted different ways in which universities are adopting technology to support learning and teaching – many universities use proprietary learning management systems, and many link proprietary systems with 'in-house learning management tools' or use proprietary systems with added individual functionality. Hansen and Salter (2001) found among staff at UWS a concern about 'locking in' to a proprietary learning management system. There was considerable pre-existing online material and communication, as well as other electronic resources, and staff were concerned that these would be not able to be used in any new system (Hansen and Salter 2001).

Teaching staff who were experienced in web-based learning at Oxford Brookes University saw the shortcomings of their learning management platform (WebCT) as a significant obstacle to the wider adoption of web-based learning (Oxford Brookes University 2002). In particular they found the interface 'frustrating to use', the imposed course structure limiting, that access restrictions worked against their desire to share good practice with colleagues, and that the online assessment possibilities were inadequate.

McNaught et al (2000, p. 151) noted that greater adoption of computer-facilitated learning would flow from generation of easily customisable materials. Templates and wizards were called for, but ones that would allow for good educational design (which also requires support).

A common concern among staff is the incompatibility (or lack of integration) of the chosen proprietary learning management platform and the organisation's administrative systems software (for example, Oxford Brookes University 2002).

Infrastructure

Hansen and Salter (2001) found that, among staff at the University of Western Sydney, 'a major perception of 'problems' with traditional teaching lay in the lack of adequate supporting administration-type infrastructures'. Their study documented the implementation of university-wide but diffused infrastructure to promote and support the adoption of web technologies in 'everyday teaching'. McNaught et al (2000) also observed:

There is a belief that real efficiencies could be possible with supportive infrastructure and good planning. (McNaught et al 2000, p. 24)

Breen (2001) found that the infrastructure at Oxford Brookes University was not keeping up with the developments taking place in web-based learning. Instances included:

- lack of active support from computer services
- their learning system software (WebCT) had not been tested adequately
- administration of online exams had not been integrated into the learning management system
- management and administrative obstacles were encountered because schools and individuals were ahead of the university
- there was no quality control of outputs

These matters were considered by teaching staff to be obstacles to the uptake of web-based learning. Scribbins (2002) also found that the demand for and expectations of IT infrastructure 'are constantly outstripping supply'. There was evidence that this reduced 'colleges' ability to manage culture, include ILT [information and learning technology] in teaching and learning, and train their staff', which in turn reduced staff demand for information and learning technology.

Hansen and Salter (2001) surveyed staff at the University of Western Sydney to find out what they wanted in terms of 'teaching support infrastructure'. They then specified an infrastructure to meet these needs, which went beyond what a proprietary system could provide at the time. The infrastructure specified would enable both the integration of the University's administration system with the web-based teaching system, and also decentralisation of use of the system to faculty and course coordinator levels. The system was developed incrementally, following needs specified by staff. The in-house web teaching system included 'all forms of static material, including external web sites, online quizzes, discussion groups, online markbook, various forms of student online assignment submission and a variety of messaging'. The administration infrastructure eventually included 'online tutorial registrations ... full integration with the timetabling systems, examination (Hansen, Davies, Salter, 1999) and results systems and various administration intranet functions' (Hansen and Salter 2001).

Decentralisation/centralisation

Most universities in Australia provide financial support to faculties for the development of online courses, although amounts and mechanisms vary. Mechanisms range from funding totally devolved to faculties to totally centrally administered (McNaught et al 2000, p. 27).

Hansen (2001) studied the implementation of a new decentralised online learning and administration infrastructure at the University of Western Sydney. The system was integrated with the university's timetable system, and used by staff at faculty and course levels and by students. Hansen found that 'the management and administrative load was taken off the central administration and distributed down to the user through the faculty support and academic staff'. The decentralised system was more cost effective, led to improved data quality, and enabled better resource planning and increased participation (and satisfaction) by staff and students. Dooley (1999, p. 36) cited decentralised authority as an important factor in innovative behaviour.

Lines (2000) used RMIT University as a case study for the use of technology in learning and teaching at ATN (Australian Technology Network) universities in Australia. Lines noted both central and distributed elements of the RMIT system:

Central control and responsibility is maintained for large infrastructure, system wide interfaces and templates, professional development of key staff and high end multimedia production. Responsibility for extended staff development and software training, lower end online and media production and implementation of and support for specific projects is distributed to the faculties.

Recognition and rewards

There is concern among teaching staff about the valuing by the institution of efforts to adopt web-supported teaching and learning and evidence in the literature that recognition and rewards promote adoption. Alexander and McKenzie (1998) identified having institutional promotion and tenure policies that recognise teaching developments as significant contributions as a factor that contributed to successful learning outcomes for students.

Lines (2000) analysed the policy, planning and implementation strategy documents of the five Australian ATN (Australian Technology Network) universities and found that:

Approaches to aligning accountability with reward for teaching and learning achievements include the establishment of teaching excellence awards and the use of teaching portfolios to evidence teaching quality in promotion processes. (Lines 2000)

Brennan et al (2001) cite research that found that, while the new technologies were well suited to 'constructivist', learner-centred teaching and learning strategies, using them effectively to this end also required acceptance of the centrality of the teacher's role.

McNaught et al (2000, p. 145) noted that small grants were considered by faculty staff to be a motivator for late adopters to become involved in computer-facilitated learning. McNaught et al's participants also identified some individual factors concerning the takeup of computer-facilitated learning; for example, 'personal attitudes towards technology ... which influenced individuals to either become, or stay, involved with the use of technology in teaching' (McNaught et al 2000, p. 72).

Recognition of computer-facilitated learning by the university (for example, by showcasing examples) was found to be a factor that would motivate staff to adopt computer-facilitated learning in teaching (McNaught et al 2000). In the cases they studied, projects that used computer-facilitated learning were often successful in fostering other staff to attempt

computer-facilitated learning, and in helping to get computer-facilitated learning approaches embedded into department objectives.

On the concerns side, Allport (2001, p. 7) noted that the use of IT in universities has contributed to declining job satisfaction – staff reported that:

it is expected that their courses will be placed on-line, [and] little if any training accompanies such expectations.

Academic promotion systems that did not value innovations in teaching were seen by McNaught et al's case study participants as barriers to the adoption of computer-facilitated learning (McNaught et al 2000, p. 73).

Gruba (2001) found that staff in his arts faculty increasingly felt that 'you would not be recognised without the integration of online materials in your subject'. Arts academics felt that online learning in their disciplines was much more difficult to achieve than in science or medicine, which was much more 'visual'.

Hansen and Salter (2001) describe a user-centric (the users being academic staff) model used at UWS to specify, develop and implement the University's integrated administration and online learning system. The specifications were developed as a result of a survey of staff and institutional (administration) needs. UWS adopted an online system for tutorial registration in Semester 2 1999. The acceptance of the registration system by staff and students was 'extremely high' (Hansen and Salter 2001).

Early adopters

The existence of enthusiasts (and leadership from faculty management) was linked to greater adoption of computer-facilitated learning in one faculty McNaught et al (2000) studied. They found that knowing that other academics were involved and getting something useful out of it was a motivator to adopt computer-facilitated learning. But they also found that peer pressure and fear of being left behind were also motivators towards adoption.

Scribbins (2002) found, after a two-year development program in further education colleges in the UK, that the use of 'ILT Champions' to lead the development of ILT was widespread, and led to staff using ILT in a way that was linked to the curriculum and improved student learning. ILT champions also raised the profile of ILT to senior managers. Oxford Brookes University (2002) notes the need for the staff most experienced in using their online learning platform to advise other staff about using it.

However, Johnston (2001) cautions that early adopters were necessary but not a 'key to large scale institutional change', and she was concerned about quality because of the individual focus of 'grassroots innovators'. In Gruba's (2001) arts faculty early adopters ('the digital elite') who had received funding for online teaching projects were seen to be distancing themselves from colleagues who had not yet been involved in such projects. Users of IT in teaching were largely motivated individuals who were working in isolation. The faculty put in place a framework for staff development that encouraged collaboration and sharing of innovative practices.

Conceptions of teaching and learning at university

Brennan et al (2001, p. 26) reviewed an extensive study of (online) teaching practice undertaken by the University of Illinois (1998–99), which was the result of:

academic disquiet about the 'computer revolution' and its pervasiveness, and the extent of financial, managerial and administrative 'hype' that accompanies the persistently future-oriented changes.

The group of factors linked to perceptions of teaching and learning at university includes traditional roles of teaching vs newer roles and issues of quality of learning and other outcomes for students from web-supported teaching, and it is bound up with teachers' definitions of their work roles.

Definitions of work

A 'traditional' view of the university teacher's role is one in which the dominant role is knowledge transmission, and the academic is 'responsible for every aspect of the teaching, curriculum development, resource preparation and assessment' (Johnston 2001, p. 3) of the course.

Online learning has encouraged an increasing emphasis on learner-centred, constructivist approaches and processes of education. For many teachers this has involved a redefinition of their work away from the dominant role in knowledge transmission, to a more guiding and facilitating role. This is 'uncomfortable' for many teachers (Schifter 2000). Teachers 'are being compelled to reconsider what constitutes good teaching whilst simultaneously being excluded from the activities which create their teaching and training contexts' (Brennan et al 2001, p. 56). Ironically, Lines (2000) sees this exclusion as 'akin to transmission approaches to teaching'.

Related to this are concerns about existing teaching methods being under scrutiny (academics having to justify their existence), and potential loss of work (fears of the emergence of the teacherless classroom). Teachers feel that:

their roles have been subverted by the designs and functions of the new technologies. They question not only the effectiveness of the technology but also their own personal effectiveness as teachers and trainers. (Brennan et al 2001, p. 47)

Dooley (1999, p. 38) found that teachers tend to teach in the manner in which they were taught, making the educational system itself a significant barrier to innovation.

Lines (2000) expressed concern about the effects of centralised, top-down approaches to the development of technology use in teaching. He found staff development activities in ATN universities which recognised that staff who did not have control over 'the content and meaning of their own practice become alienated and despondent'. He also found that, while staff need to 'find or reconnect with their purpose in the changed circumstances of higher education':

Current implementation approaches at the corporate level do not acknowledge this need and have no explicit approach to addressing it. (Lines 2000)

Some authors discuss the pursuit of cost-effectiveness of online education in terms of reallocation of work roles. For example, Curtain (2002) suggests that costs can be reduced by allocating roles such as student support to lower cost staff. Rumble (2001) suggests using an author-editor model of course development, using consultant authors and permanent staff editors. In courses with large student numbers, he suggests hiring students, teaching assistants and 'retired faculty', and that more administration tasks will be allocated to administration staff (Rumble 2001). More strongly he argues:

... any system that limits control of design and delivery to a single person limits both the range and sophistication of the materials that can be developed, and the number of students that can be supported, and is thus inherently cost-inefficient. (Rumble 2001)

Johnston (2001, p. 3) terms this an ‘unbundling of the teaching role’, and notes academics’ concerns about loss of ownership and even ‘a potential threat of removing the academic altogether from the teaching process’.

New teacher roles are needed to use online technologies effectively for teaching and learning. Johnston (2001) notes that there are many ‘new roles and responsibilities’ involved in online teaching as teachers adopt regular online discussions with distance students with whom they have previously had little contact, for example, and negotiate resources with ‘IT services, libraries, student administration areas, administrative systems, marketing and many more’. Rumble (2001) also suggests ‘e-moderating’ of communication as a role academic staff have not had to do before.

Effectiveness of online learning

Academics are concerned about the effectiveness of online delivery, of itself and in comparison with face-to-face teaching; many see technology-based teaching as ‘complex, untried and pedagogically unsound’ (Salter and Hansen 1999).

Brennan et al (2001, p. 24) note:

In the enthusiasm for the technology, the hard questions about teaching and learning have often been overlooked. Technology seems to be driving pedagogy.

Resisting academics in one faculty perceived that use of information technology in teaching ‘sought increasingly to homogenise the curriculum’ (Gruba 2001).

Breen (2001), reporting attitudes of teaching staff to web-based learning tools, found that the belief among teachers that web-based learning tools were valuable for learning was a significant factor in predicting their use of web-based learning tools.

A related issue is lack of guidance about the learning and teaching aspects of online learning. This relates both to the issue of whether online learning is effective, and to whether guidance is provided by the individual institution. The latter is a staff development issue.

The lack of pedagogical guidance about integrating tools for collaboration and communication into one’s classroom or training setting leaves instructors across educational settings with mounting dilemmas and confusion. (Bonk and Cunningham 1998 in University of Illinois 1999, p. 8)

Assessment

The issue of how to use the online environment to effectively assess students’ learning is also a concern for academics. A common view is that online assessment has not yet developed beyond measuring ‘turning up’ strategies to enable assessment of the quality, depth and dimensions of student learning (Brennan et al 2001, p. 57).

Evaluation

McNaught et al (2000, pp. 145–146) identified the need for staff (especially late adopters) to be convinced that technology would improve the quality of students’ learning experiences and outcomes as one of four main factors in adoption. Sound evaluation (for example, evaluation that assesses the embedding of technology into teaching approaches), accompanied by dissemination of the findings, was the key to this. They found that feedback and evaluation about what is good teaching practice and what is not was a factor that motivated academic staff to use computer-facilitated learning.

There was also the issue of how ‘uptake’ is measured:

The crux of the argument appeared to focus on whether the extent to which CFL had been embedded related primarily to quantitative criteria (e.g. the number of staff utilising CFL approaches in their teaching, the number of students accessing online forums) or whether qualitative indicators were more significant (e.g. whether evaluation has shown improved learning outcomes). (McNaught et al 2000, p. 73)

Many participants felt that their institutions were trying to maintain two learning and teaching systems – traditional educational delivery and new systems – and that ‘this was a significant barrier to embedding new practice’ (McNaught et al 2000, p. 74). At the same time they felt that there would be no ‘going back’ to conventional methods, and that increased expectations on the part of students concerning the use of computer-facilitated learning would maintain the pressure for change (McNaught et al 2000, p. 74).

While there was a high level of ‘basic use of CFL’ across institutions (McNaught et al 2000, p. 73), and ‘concentrations of considerable activity and enthusiasm’ (p. 74), in none of their five cases did McNaught et al find ‘a critical mass’ of users who could demonstrate qualitative change (such as improved learning outcomes) from the use of computer-facilitated learning in teaching (p. 74).

The University of Illinois report calls for summative (can the higher cost of online delivery be justified?) and formative (feedback to maximise the quality of online teaching) evaluations to compare teaching in online courses with that in classroom courses. They also acknowledge, however, that it may not be possible to evaluate the overall effectiveness of online learning and teaching compared to that in the classroom (University of Illinois 1999, p. 36).

A significant motivating factor for the adoption of computer-facilitated learning is being able to see how learning outcomes can be improved using computer-facilitated learning (McNaught et al 2000); for example, teaching benefits such as computer case studies, or through having specialists from different disciplines involved in discussion groups. Positive feedback from students helped motivate, as did student demand and perceived increasing efficiencies from the adoption of CFL.

Quality of materials

Some further education college staff in the United Kingdom did not use the intranet to deliver online learning materials because of concerns about the quality of such materials; others were critical about the quality of existing online materials produced in their colleges, or how they would be used (Scribbins 2002). Staff at Oxford Brookes University (2002) considered that lack of a validation mechanism for the quality of online materials was an obstacle to university-wide support for online course development.

Discipline

Breen (2001) found no significant differences among staff in different academic schools either in their perceived value of web-based learning tools or their general computing skills, even though there were significant differences in the extent of their experience with web-based learning tools. Breen suggests that, since attitudes across the Oxford Brookes University were positive, low-experience schools be targeted with strategies being that individuals from high-experience schools share their experience with those from the targeted schools.

Support

Brennan et al (2001) identified from the research literature a set of preconditions for improved learning outcomes in an online environment, including the need to ‘prepare teachers/trainers

to use new technologies flexibly and beyond minimum levels of competence' (2001, p. 8). For this to be achieved, 'teachers and trainers need support beyond the four walls of the professional development activity' (Brennan et al 2000, p. 59).

McNaught et al (2000) also discuss the need for adequate support for effective staff development, including having high-quality staff developers, help to alleviate workloads, one-on-one training and respected mentor support, and allowing adequate time for staff development. Similarly, Brennan et al (2001, p. 55) cite research that found that using the new technologies effectively requires 'a great deal more institutional support' with its foundations in:

- an organisational developmental approach
- staff development
- integration of policy development

IT support

Issues linked to less than satisfactory outcomes of a staff development program for online learning and teaching included inadequate technical support and lack of support from line managers (Drysdale and Creanor 1998). Gruba (2001) found that staff in the arts faculty he studied would prefer more technical support rather than IT training, to leave them free to be concerned with using online materials in teaching rather than producing them.

Alexander and McKenzie (1998) found that successful IT projects had 'adequate access to technical support and educational software development expertise'.

Management support

Guthrie (2003) includes as his first key message to emerge from a body of research into online learning in the VET sector, that: 'it requires vision and leadership to successfully implement online learning', and not just improved management (Guthrie 2003, p. 10). This requires fundamental changes to policies, practices and funding approaches.

McNaught et al (2000) identified several institutional factors that influenced the takeup and dissemination of computer-facilitated learning in Australian universities: 'for example, policy, infrastructure (technical, administrative and support), resourcing and culture' (p. 72). A motivator for staff was more support from above, including commitment on the part of the organisation that funding for computer-facilitated learning will continue (McNaught et al 2000). In Brennan et al's words:

The new technologies make for new ways of doing, being, working, seeing, responding and thinking. These changes and their ripples need far greater levels of institutional and professional support and evaluation if they are to deliver one-tenth of the promised educational and training advantages. (Brennan et al 2001, p. 18)

These factors are almost universally cited, but their source, and the key to their solution, are in factors that influence the choices of individuals about takeup of computer-facilitated learning.

At an institutional level, Dooley (1999, p. 39) suggests that compatibility, communication and evaluation influence the success or otherwise of innovations: the innovation must be compatible with the organisation's philosophy and mission, and supported by upper management; good communication is key to overcoming resistance and reducing uncertainty; and there must be time and support for evaluation. Most Oxford Brookes University (2002)

staff interviewed expressed the need for strategic direction from the university and for more support in delivering online courses.

Schifter (2000) suggests that administrators who understand the needs of teaching staff are needed in order to foster an environment that ‘maximizes motivating forces and minimizes inhibiting factors’ for participation of teaching staff.

Leadership

A number of studies identify the need for the support of significant leaders or managers in successful adoption of technology in teaching and learning (for example, Dooley 1999, p. 40). Leaders need to foster a trusting atmosphere that ‘supports experimentation and sharing’, and to demonstrate active support and concern (Dooley 1999, p. 40). Dooley (1999, p. 36) cites studies that found that having ‘change-oriented leaders’ was critical in the adoption of innovations in education.

Alexander and McKenzie (1998) reviewed 104 projects that made significant use of information technology to develop student learning materials. Factors that contributed to successful learning outcomes for students included having a supportive head of school/department and Dean who recognised the value of the project, and were committed to its implementation.

Dooley (1999) also identifies the need for a credible change agent to *facilitate* the innovation process, to act as a link between the stakeholders and those who are called upon to adopt the innovation. The change agent must understand the needs of the adopters and the skills and understandings needed to adopt the innovation. They must also ‘collaborate with the teachers in developing training and in-service programs to address their needs’ (Dooley 1999, p. 41).

Alexander and McKenzie (1998) found that successful IT projects had a skilled project manager for the life of the project. Dooley (1999, p. 37) includes inadequate supervision of projects among characteristics that ‘seem to explain’ why innovations fail.

Ownership

Hansen and Salter (2001) considered the needs and perceptions of potential adopters as the primary influence on adoption, and the model used at UWS to specify, develop and implement their system was based on meeting user needs. This gave the users (primarily academic staff) a sense of ownership of the system, which quickly achieved a high level of acceptance. McNaught et al (2000) found that ‘having a sense of ownership of the process’ would motivate academic staff to become involved or stay involved in using computer-facilitated learning.

On the other hand, Rumble (2001) considered that in many courses academic staff will have to relinquish control of the whole teaching and learning process in online delivery because such control is inherently cost inefficient. He suggests, as one way of reducing the costs of online delivery, that cheaper labour could be used to support academic staff to develop online materials, a view with which Curtain (2002) concurs. Johnston (2001), however, notes the loss of ownership that such a strategy implies. And University of Illinois (1999) found that quality of teaching was best assured when ownership of developed materials (and processes) remained in the hands of teaching staff.

Brennan et al (2001, p. 48) found that many higher education teachers felt disenchanted in the current environment:

The idea that ‘technology is driving pedagogy’ supported by government and industry relegates teacher/trainer skills and accumulated wisdom to an often unimportant

position in the equation. Staff development seems to follow, rather than match, innovation. The constant game of ‘catch up’ further reduces the sense of ownership of the process of teaching and training.

At the University of Illinois (1999, p. 5), following a vision statement from the University President claiming the pursuit of a leading role in using ‘advanced technologies’ in teaching, numbers of academic staff expressed concern that there was too much ‘top-down implementation of technology’ without due consideration of pedagogy:

... teachers have not been approached as a body to help plan the implementation of distance learning. (Regalbutto 1998a, quoted in University of Illinois 1999, p. 5)

University of Illinois (1999, p. 17) considered that a rising ‘ire of committed teachers’ towards computer-mediated teaching could be partly explained by the concern that:

... administrators are mainly concerned about the money-making potential of online instruction, and are being directed by vendors to high-priced instruments of the wrong sort.

This links directly with an observation from O’Hagan (1999, p. 21) that:

... empowering teachers is not sufficient – there is a ‘glass ceiling’ between them and the strategists at the top, composed of a mixture of middle and senior managers who have more ‘urgent’ priorities.

Brennan et al (2001) found evidence in the research literature that:

... teachers and trainers feel that their skills, their talents and their creative and accumulated wisdom about teaching and learning are not being used in productive ways (Brennan et al 2001, p. 59)

McNaught et al (2000) advocate a combined top-down (policy and support) and bottom-up approach for successful implementation of new teaching and learning strategies. Hansen and Salter (2001) used a user needs based, bottom-up approach to specify the UWS online teaching and administration system. User needs were identified using a staff survey. The approach was associated with very high user acceptance.

O’Hagan (1999, p. 21), from his own experience at Derby University in the United Kingdom and from the literature, considered that ‘bottom-up empowerment’ can be achieved through:

- buying out staff time to engage with innovation
- developing mentors to bring on board the less enthusiastic
- developing technological literacy in staff and students, across the entire institution
- funding key projects

Intellectual property and copyright

Intellectual property/copyright is also a concern of many academics (McNaught et al 2000). Gruba (2001) considers the challenges of meeting copyright and accessibility law requirements to be a significant barrier not only to individual academic staff but also to staff developers whose job it is to advise staff on these issues:

By the time those of us in charge of leading staff training understand the many aspects of putting up a fully compliant teaching web site, for example, the terrain seems to shift.

The shifting and complex requirements of these laws have created an extra dimension (burden) of staff development. Gruba (2001) also observes that the new digital copyright laws have ‘cooled the drive’ for some academic staff to put materials online.

Policy and strategy

Oxford Brookes University (2002) interviewed staff who were experienced in web-based learning; they expressed ‘a strong need for strategic direction from the University’ to support web-based learning. They also called for a ‘clear strategy from the centre of the University’. However, Lines (2000) found that, where strong central policy and strategy exist, as in the ATN universities in Australia, there has been little opportunity for staff to contribute to the development of the system, questioning is ‘often treated as resistance’, and there are fears of ‘possible loss of professional integrity or even employment’.

McNaught et al (2000) used five case studies to investigate factors that supported or inhibited the uptake of computer-facilitated learning in universities. One of five issues that were important in all five cases was policy: coherence of policy across all levels of institutional operations, and specific policies which impacted on computer-facilitated learning within each institution. Indeed, Guthrie (2003) presents an overview of research into online learning in the VET sector in 2000–01, and includes enabling policy as a key to implementing online learning successfully, ‘not [a policy] which is top down—but one which empowers grassroots organisations to collaborate, to transform and to innovate’. McNaught et al (2000, p. 150) also found that faculty policy was an important driver of the adoption of computer-mediated systems.

Scribbins (2002) (from a study of the use of information and learning technologies in further education in the UK) considers it essential to have a documented strategic and operational approach to ILT implementation that links with other investment and activity, and which involves:

... support from senior management, more resources, staff development, and attention to using technology in teaching and learning. (Scribbins 2002, p. 9)

Integration of computer-facilitated learning approaches within school/faculty/department is identified as a key to adoption of computer-facilitated learning in the cases studied by McNaught et al (2000).

Resourcing issues (Cost/funding)

Brennan et al (2001) reviewed the available research literature on measures of effectiveness that inform policies that relate to online delivery of education and training. They found that cost was often the driving force in institutional decision-making about the use of online technologies. The University of Illinois (1999) study found that administrators made decisions to adopt computer-mediated instruction models and platforms based on cost saving and/or money making criteria. Policy-makers and administrators also often had a cost-driven conception of the benefits of computer-mediated learning (Schifter 2000).

The effectiveness of online delivery for the institution is often assessed (at least partly) in terms of reducing the cost of delivery, reducing the use of human resources, and their replacement with ‘relatively low maintenance hardware and software’ (Brennan et al 2001, p. 44). Learning outcomes were not found to be important criteria for institutions adopting technology (Brennan et al 2001, citing a study by Mitchell and Bluer 1996). The University of Illinois (1999, p. 18) authors observe:

Computer mediated instruction may indeed introduce new and highly effective teaching paradigms, but high-quality teaching is not always assured. Administrative decisions made without due consideration to pedagogy, or worse, with policies or technology that hampers quality, may cause much wasted time, money and effort of both faculty and students.

Felix (2002) argued that university administrators have found that cost savings were achieved over traditional face-to-face teaching in higher education only by redirecting scarce classroom resources away from core business to computer applications. She found that cost savings were possible only if poor alternatives to face-to-face courses were offered: 'Even then the infrastructure costs were high and the low uptake by a largely recalcitrant staff hardly justified the outlay' (Felix 2002, p. 50).

The higher education sector in Australia is investing large amounts of money in providing the infrastructure to support online delivery of courses (for example, Brennan et al 2001; Spotts 1999). Lines (2000) reviewed policies in the ATN universities and found that 'the allocation of substantial central funds for teaching and learning initiatives' was common to all five universities. These were allocated through faculty and central 'Strategic Initiative Funds' and teaching and learning grants, and all were 'aligned to centrally determined teaching and learning priorities'.

Curtain (2002) compared the costs of several modes of delivery of vocational education and training. He found that classroom-based mixed-mode teaching with low interactivity and heavy reliance on content was more expensive to deliver than traditional face-to-face teaching, and that students were less satisfied. High interactivity and the use of existing web materials cost less or at least no more than face-to-face delivery, and students were more satisfied. Online distance delivery with high interactivity cost twice as much as print based (low interactivity) distance materials, but students were more satisfied, and as satisfied as with traditional face-to-face delivery (Curtain 2002, p. 6). Curtain's cost comparison did not include a case of high interactivity and materials developed specifically for the course.

The University of Illinois (1999) study found that high-quality online teaching almost always cost more than classroom teaching:

Because high quality online teaching is time and labor intensive, it is not likely to be the income source envisioned by some administrators. Teaching the same number of students online at the same level of quality as in the classroom requires more time and money. (University of Illinois 1999, p. 2)

This was because good and committed teachers and small classes (to enable the high level of interaction necessary) are needed for high-quality learning and teaching, as well as investment in course development, initial technology infrastructure, staff development and technical support, and maintenance of hardware and software (University of Illinois 1999).

Some papers reviewed by Brennan et al (2001) pointed to the high cost of course development (for example, 30–600 [six hundred] hours of development time for every hour of instruction delivered (Golas 1993 in Brennan et al 2001, p. 49), while others suggested that these costs were partly ameliorated by lower cost of delivery and 'learning compression' (students completing in a shorter time). Brennan et al (2001) concluded that **transmission** of information and course materials was a relatively cheap activity, but that:

the further we move along the continuum of interactivity and communication the greater the costs will be in terms of staff support, materials design and assessment. (Brennan et al 2001, p. 49)

A majority of Oxford Brookes University (2002) staff who were interviewed were concerned about the cost to themselves, students and the university of developing and using online learning materials. University costs that concerned them included the cost of time release for staff to spend the 'enormous amount of time' to develop online courses, as well as infrastructure costs.

Holz (1999) argues that:

In order to be effective [flexible learning] needs a large up-front investment in the development of materials and the release of teachers from their traditional face to face teaching duties as well as the research they are expected to do. (Holzl 1999, p. 11)

McNaught et al (2000) also found that specific resourcing issues related to funding for maintenance or updating of computer-facilitated learning materials and approaches, staff time release and support staff were important factors that supported or inhibited the uptake of computer-facilitated learning in all of five cases they studied.

Culture

Institutional culture is regularly cited as an important influence on attitudes among academics towards the adoption of computer-mediated learning (see for example, McNaught et al 2000; Brennan et al 2001; Gruba 2001). Brennan et al (2001, p. 23) suggest that for computer-mediated learning to be effective it needs to be fully integrated into the culture of the organisation. Dooley (1999, p. 36) reviewed research literature which found that innovative behaviour was correlated with features of the organisational 'climate' such as openness, trust and free communication.

Brennan et al (2001) observe, however, that the social and political construct of an institution often seeks 'to exert control and influence, and diminish the role of the facilitator/teacher'. For example, many academics feel that the institution does not appreciate the impact of new technology on academics' roles and workloads:

... new tools are never neutral. They impact with a force that is sometimes not acknowledged at the point of their creation or introduction. The sometimes raw edges of the 'strategy and implementation model' are abrasive for the practitioners involved. (Brennan et al 2001, p. 17-18)

The speed of change and the constant renegotiation of the working environment online puts pressures on staff and students which rarely appear in the official documentation of progress. (Brennan et al 2001, p. 18)

Similarly, Brennan et al (2001) found evidence in the research literature that:

Educational design and delivery decisions are being made by the divisions with responsibility for the introduction and maintenance of the equipment rather than achieving some balance between the skills provided by both teachers/trainers and designers. (Brennan et al 2001, p. 59)

The firmly entrenched values, attitudes and behaviours of individuals in particular disciplines and institutions can be barriers to innovation, while institutional norms such as 'introspection, collegiality, and a shared sense of purpose or vision' can be part of a culture that supports innovation (Dooley 1999, p. 39).

Gruba (2001) found lack of collaboration and the dispersed model of staff development in his faculty to be barriers to the adoption of online learning, and that a shift in culture would be needed to enable the 'new pedagogical approaches' necessary for successful online development. His faculty developed a staff development framework that integrated staff development activities and encouraged collaboration and sharing of innovative teaching practices. His view of their progress at the time of reporting was that they had successfully promoted 'a supportive culture for IT teaching and learning within the Faculty' (Gruba 2001, p. 231).

Dissemination

Dissemination of information about online learning and teaching is critical to fostering its uptake. Information about policy and support strategies, good practice in web-supported teaching, effectiveness, successful projects, tools and infrastructure are important.

Lines (2000) studied the strategic investment funds approach to teaching and learning innovation implemented at RMIT University. Their dissemination strategies were implemented at several levels and included a central web-based clearinghouse of project outcomes, an annual conference ‘to share learning’, and forums, teaching and learning days, presentations and demonstrations at the faculty level.

One ATN university Lines (2000) studied used an annual forum of presentations from applicants and recipients of grants for learning and teaching initiatives; the recipients presented progress reports and reports of finished projects. The presentations were videoed and available as an ongoing resource. These forums were well received by teaching staff.

While there was significant knowledge about computer-facilitated learning within the institutions McNaught et al (2000) studied, and many projects and early adopters using computer-facilitated learning, ‘there was less evidence of widespread diffusion or sharing of this knowledge beyond the boundaries of the case or project’ (McNaught et al 2000, p. 74). There was little evidence that institutional mechanisms to encourage dissemination were effective, especially in reaching or informing later adopters.

Embedding educational technology

O’Hagan (1999, p. 22) summarised the findings on the question of what is needed to embed educational technology in learning and teaching thus:

There is no one way, and although we may be able to define some necessary conditions, no one can say that they know absolutely what is sufficient.

In any context, what is sufficient to enable embedding of technology in learning and teaching is mediated through the ‘local change environment’ (O’Hagan 1999). Dooley (1999) suggests that a starting point is to determine ‘where school personnel are in the innovation decision process and what their concerns are (self, task, or impact) with regard to technology’ (Dooley 1999, p. 40). With this information we can ‘design appropriate professional development programs and an environment where impediments are minimized’ (Dooley 1999, p. 40). Hansen (2001) and Hansen and Salter (2001) also report a user needs based approach.

McNaught et al (2000, p. 146) found in one case study that, after successful projects and evaluation had demonstrated that computer-facilitated learning could improve students’ learning outcomes, one unit’s ‘formal’ embedding of computer-facilitated learning into its objectives and teaching strategies fostered greater adoption of computer-facilitated learning among other staff.

Several different approaches to the embedding of learning technologies are revealed in the literature. Most involve institution-wide support for professional development, with varying models recommended or shown to be effective in certain circumstances. These models have much in common, such as the need for collaboration and consultation, a combination of top-down and bottom-up strategies, and the need for a variety of staff development initiatives to meet different and changing needs. Ellis and Phelps (1999), for example, researched an approach taken at Southern Cross University that was based on a ‘collaborative, team-based action learning model’ of staff development and change management. Their approach included a platform from which to develop guidelines and recommendations that took account of staff concerns, and engendered mutual support among staff.

In another approach, Dooley (1999) discusses concerns theory and its role in informing institutions and researchers about the needs of teachers in relation to the adoption of technological innovations. Non-users (at beginning of a change process) of an innovation have concerns relating to *awareness*, *information* and *personal matters* (self concerns) – non-

users and low users are concerned about gaining information about the innovation and about how change will affect them personally. As users begin to use the innovation, their concerns relate more to its *management* (task concerns). More experienced and skilled users of an innovation tend to have concerns relating to *consequence, collaboration, and refocusing* (impact concerns) (Dooley 1999, pp. 36–37). Dooley advocates a diffusion model of change implementation that requires understanding the context in which the innovation is to occur and the needs of managers, trainers and teachers at all stages in the innovation process.

Examples of staff development

The following subsections describe several examples of staff development approaches. This is not an analysis of staff development or adoption models. The examples are rather an introductory stage in a review of adoption models that could be pursued further to inform staff development needs and means of encouraging effective use of technology in teaching and learning at the University of Adelaide.

Within the observations about staff development there are clear indications that an institution-wide approach and institutional support are needed, but also the ability to meet the needs of smaller organisational units and individuals, at all stages of the adoption process and beyond. Such integrated support seems often to be lacking or inadequate.

Modelling technology use in teaching

Staff development can be provided partly by modelling how to use technology in the teaching and learning process (Dooley 1999). Drysdale and Creanor (1998) delivered an introductory course for new academic staff in learning and teaching using web materials and online discussion, combined with face-to-face tutorials and work-based learning activities. Results were mixed, but the authors considered that the model was successful in raising awareness of online learning, and in ‘demonstrating to new staff a simple model of using learning technology, and giving them first hand experience of its use’ (Drysdale and Creanor 1998, p. 16).

The Coventry model

Deepwell and Syson (1999) describe a staff development process at Coventry University to support staff in online teaching using WebCT. Coventry, like the University of Adelaide, is campus based, has an institution-wide online learning environment, and has a central educational development unit (EDU) (like the LTDU). (A useful description and critique of a similar model, in the Australian context, is provided by Lines (2000).)

The EDU at Coventry took for itself an active, high-profile role to promote and facilitate the uptake of WebCT. They realised that meeting some subsidiary goals was necessary if they were going to be successful, including (Deepwell and Syson 1999, p. 122):

- changing the culture of learning and teaching at Coventry University
- overcoming the anxieties of learners and teachers concerning using computer technology
- embracing the new possibilities afforded by online learning and at the same time preserving what was valued in face-to-face situations

The project was supported at top management and local levels within the university. At the top level a group was set up to ensure collaboration between central support services (the EDU, computing services and registry). This group was supported by three subgroups

(chaired by pro-vice-chancellors), to advise on technical, user interface and 'training' requirements. Administrative and academic systems were integrated.

Local, and more personal, support was provided in a number of ways:

- The university had a task force of academics who were seconded half time to advise and assist others in their discipline area in relation to good practice in learning, teaching and assessment.
- Each school or department had a WebCT expert who needs to be 'informative, inquisitive, assistive'.
- Each school has a WebCT administrator who needs to be 'communicative, methodical, reliable'.

Both of the latter two roles need someone who is approachable and normally around: this feature 'plays a significant part in the local perception of WebCT accessibility' (Deepwell and Syson 1999).

The EDU provided staff development and support through:

- workshops to raise awareness of the potential of the online learning environment
- workshops to develop practical skills in using the system and knowledge about web-based learning and teaching
- advice on a one-on-one basis
- a template to provide a WebCT course structure for every course, with suggested and required headings for the course information sections
- a WebCT support web site and other publications

Deepwell and Syson (1999) reported high levels of interest and use of the system and staff development activities by staff, and positive evaluations from students, but also a concern that some staff were apathetic about using technology in teaching.

A collaborative staff development model

Brennan et al (2001) propose a 'collaboration model' of staff development, in which professional development is supported 'beyond the four walls of the professional development activity' but where the decisions are made by the academic teachers in collaboration with staff developers, and which offers 'the opportunity for professional exchange and communication, and systems for lodging and sharing online resources' (Brennan et al 2001, p. 59).

A diffusion model

Dooley et al (1999) undertook a study of adoption of computer technology by school teachers who were low, middle and high technology users. Their approach recognised that teachers at different levels of adoption of technology had different staff development needs, and that different levels of adoption existed within an institution at the same time (see also Hansen and Salter 2001). Dooley et al (1999) found that 'intervention' must meet staff communication and information transfer needs, as well as training and professional development needs (technology use plus integration into the teaching 'repertoire').

Their study led them to make recommendations about staff development for different levels of adoption (stages of diffusion) of computer technology. Formal training is required in the

use of the technology, complemented by more informal professional development. Their suggestions include:

- Have an orientation program for new staff, to demonstrate resources and procedures and boost confidence, and recognise that new and low using staff need more ‘support and guidance’.
- Form interdisciplinary teams to foster the diffusion and dissemination of the technology. Include one teacher with more technology knowledge to help integrate the technology use. Have the technology aware teacher physically close, give them teaching release and additional training. This person should have the characteristics of an early adopter (have impact concerns, a favourable attitude to change, ability to cope with uncertainty and risk, high motivation, high social participation, greater exposure to communication channels). Training is provided initially to interested and motivated staff; they can then become part of the ‘team’ and train other teachers.
- Set up a collegial mentor program. Match new and low users with a mentor who is only one step ahead; to boost confidence and allay personal concerns; less intimidating. Mentors must not be technology trainers or high users, but related to subject area. [see also O’Hagan 1999, p. 21]

Johnston (2001) is less enthusiastic about the diffusion model of staff development. She considers it slow, to have too much of an individual focus, and that its projects are in danger of not fitting in with university priorities, with the potential to lead to ‘increased costs and workload which would be unsustainable on a large scale’. However, Dooley et al (1999, p. 114) note ‘Teachers training teachers works best, but takes longest’.

Integrated staff development

The faculty Gruba (2001) studied appointed an academic to coordinate staff development across the faculty, and to manage a holistic approach with ‘clear and structured pathways to professional development’. The faculty set out to provide integrated ‘one-stop services’ to meet staff development needs. Each department in the faculty had a staff development team to coordinate and organise professional development identified as needed by the team working with staff. The faculty training unit liaised with departments to evaluate needs and ‘develop a strategic approach to professional development’. Workshops (with external and internal guest speakers offering case studies of use of IT in different contexts), one-on-one tutorials, web-based support material, and templates were offered. Both IT skills and pedagogical issues were covered. An important feature of the approach was the showcasing of projects at an informal ‘fair’, held during a non-teaching period.

The role of staff development units

McNaught et al (2000, p. 44) found that in the 28 universities they studied support for developing and using computer-facilitated learning materials was usually done ‘by or in conjunction with academic development units’ (ADUs). Staff development at Coventry University (Deepwell and Syson 1999) is an example of this approach. The units considered by McNaught et al (2000) were generally ‘centrally-based groups of staff with expertise in education design, curriculum design and teaching strategies’. Part of some ADU budgets went to course development and staff time release to develop online courses.

Activities related to using technology in learning and teaching that were undertaken by academic development units included:

- general and faculty/ department workshops

- educational design of entire programs and of courses
- providing information about computer-facilitated learning resources
- individual consultations
- support for an online learning system
- support for computer-based assessment systems
- evaluation of computer-facilitated learning (CFL) innovations
- maintaining an inventory of CFL projects in the university
- facilitation of grant writing for CFL development
- visiting specialists, teachers, scholars
- IT and information literacy support for staff and students
- software training sessions

McNaught et al (2000) gathered information from ADU staff (the providers of staff development) about the perceived effectiveness of staff development activities. ADU respondents from more than 70 per cent of the surveyed universities listed the following as ‘important’ (effective):

- educational design of entire programs
- educational design of courses
- support for the online learning system
- individual consultations
- providing information about computer-facilitated learning resources

ADU respondents from more than 60 per cent of the surveyed universities listed the following additional activities as ‘important’ (effective):

- faculty/ department workshops
- information literacy support for staff
- information literacy support for students
- evaluation of computer-facilitated learning (CFL) innovations

Responses of ASCILITE members (early adopters) to the same question were similar.

Coordination of staff training and development activities between ADUs and other units (such as the library and information technology services) was also considered important. McNaught et al (2000) found that in most universities support for the use of computer-facilitated learning was provided by ITS units and libraries as well as academic development units. They considered that:

It is essential that each university maps the activities covered by these support units and articulates its own model of support provision. (McNaught et al 2000, p. 53)

McNaught et al found that there was often a problem when IT and academic staff did not understand each other’s needs and understandings: issues of culture, ownership and effective, inclusive project management were important (McNaught et al 2000, p. 39).

Staff development roles

Models of staff development indicate a variety of staff development roles. Scribbins (2002) describes two staff development staff roles within one college they studied:

- learning advisers – based in the central staff development unit, they work with curriculum development teams on course resources
- information and learning technology instructors – deliver help and training on ILT to teams and individuals,; can be based in the school or faculty

These staff were important in ‘moving ILT forward’ and encouraging other staff to produce internet teaching resources.

Other staff development roles are noted throughout the literature review.

Conclusion

This review of literature relating to the adoption and use of online teaching tools and practices points to a multifaceted web of factors. These factors relate to individuals’ concerns about and motivations towards the adoption and further use of online technology in teaching. These concerns and motivations involve time and workload, skills and knowledge, staff development and training, support structures, and conceptions of teaching and learning at university and what a university teacher is.

But individual concerns can be addressed by institutional responses. Institutional factors that emerged from the literature include the need for effective policy to develop and disseminate online teaching and strategies for it, and well-informed support at a top management level and at faculty, school and department levels to enable the significant changes staff need to make to embed online teaching into their teaching practice. This support needs to include not only adequate resources, pervasive, flexible and ongoing staff development and training, and recognition and rewards, but in many (possibly all) instances also a change in the culture of the organisation.

McNaught et al (2000) distil the issues they identified were distilled into three themes:

- **Policy:** Policy issues related to specific relevant institutional policies, the coherence of policy across the institution, the direction of policy change (bottom-up or top-down) and strategic processes that flowed on from policies (such as grant schemes). Intellectual property/copyright was also a concern.
- **Culture:** Cultural issues related to collaboration within institutions, personal motivation of staff to use computer-facilitated learning, particular aspects of funding (funding for maintenance/updating CFL materials and approaches, staff time release, support staff), staff rewards, incentives, recognition and time, leadership, teaching and learning models, and attitudes such as ‘not invented here’.
- **Support:** Support issues were institutional issues including IT, library and administrative infrastructure, professional development and training for staff, student support, educational and instructional design support for academic staff, funding and grant schemes, and IT literacy.

Whether and the extent to which the factors that became evident in the literature applied to the University of Adelaide had not been investigated. Thus the literature reviewed here informed the issues covered in the survey instrument for the project (appendix 2).

3 Methods

Data collection

Data for the study were collected using face-to face semi-structured interviews and a survey instrument.

Interviews

The interview schedule (appendix 1) was developed as a result of preliminary findings from the literature. The questions focussed on:

- the background of the interviewee and their discipline area in relation to the use of IT in teaching
- how online technology had been used in their discipline area
- factors that were important in their adoption or non-adoption of MyUni
- what they considered needed to change in relation to their use of MyUni

The intention was to interview staff from all academic areas/disciplines of the University, and to include early and later adopters of web teaching tools, users of parallel systems and those who had been prominent in MyUni debate during its development.

Potential interviewees were selected in three ways:

- from the list of Faculty and School IT Committee Conveners on the ITS web page ‘University IT Contacts & Departmental Support Arrangements’ [http://www.adelaide.edu.au/ITS/help/user_services/general/contacts.html]
- by seeking out known individuals in schools or departments using web-based learning systems other than MyUni
- Two individuals approached the researchers after seeing an article about the project in Inside Adelaide, which asked for interested parties to come forward.

Individuals identified in the first two ways were contacted by phone to request an interview in September – October 2002. Confirming emails were sent which included an outline of the project and a link to the application for the Teaching Development Grant that funded the project.

Everyone approached agreed to be interviewed except in one case, when an ex-Faculty IT convenor was approached and the approach was successfully redirected to the current convenor.

In all twelve structured interviews were carried out, usually in interviewees’ offices. Ten were conducted between 2 September and 15 October 2002. The remaining two interviews were conducted on 13 and 20/26 February 2003.

The survey instrument

Based on the first ten interviews and the literature review, a questionnaire was developed which was intended to test the hypotheses that there were multiple factors involved in decision-making about whether to adopt MyUni, and at which level to adopt it. The questionnaire also sought to explore the values respondents held in relation to computer-supported and web-based teaching.

The instrument was developed through several drafts, with close collaboration between the researchers and critiques from other researchers.³ The draft questionnaire was edited to reduce its length, and converted to a visually appealing template by Ian Roberts, ITS. The resulting pilot survey instrument was then put onto a University server.

The recipients of the pilot (chosen from the group of interviewees and other contacts prominent in the University learning and teaching debates) comprised eight teaching staff from several faculties. They were requested to forward the pilot instrument to other staff who had not used web teaching tools. These pilot questionnaire informants were contacted in December 2002 by email. The email included a link to the questionnaire (instrument), gave instructions for completion and return, and asked for comments on:

- how long it took to complete the questionnaire
- whether it asked the questions they wanted to answer
- the adequacy of the response categories
- whether anything else should have been covered

Recipients were asked to complete the questionnaire and return it by internal mail.

Three completed pilot questionnaires were returned. Useful verbal and emailed responses were also received from other informants. These returns were analysed and led to numerous changes to the instrument.

The final survey instrument covered structured and open-ended questions relating to:

- background information including the use, knowledge and valuing of electronic tools
- attitudes to the adoption of web-based teaching tools, and information about adoption
- the impact on students of the respondents' use of web-based tools
- the impact on teaching of the use of web-based tools
- future intentions and changes respondents would like in web-based teaching tools

Anonymity

No names or identifying information was included in the questionnaire. The respondents were assured of the anonymity of their responses on the questionnaire.

Distribution

It was originally intended to distribute the survey electronically, through a web link, as had been done for the pilot. However, we were concerned that teaching staff who did not regularly access their email, and those who were not accustomed to linking to the University intranet, might not receive the survey or might be discouraged from completing the questionnaire. It was eventually decided to print and post the instrument through internal mail. This position was most strongly informed by the belief that if staff were ill disposed towards digital communication, and a survey about this disposition arrived on the very tool that we sought to investigate their use of, the value-free nature of the research process would be compromised as respondents would be more likely to be drawn from 'adopters' than 'non-adopters'.

³ In devising the items for the impact of web-based teaching on students, the current University Graduate Attributes (http://www.adelaide.edu.au/DVCE/students/graduate_attributes.html; page dated December 2002) were taken into account.

The questionnaire was sent out with a covering memorandum (appendix 2) on 4–5 February 2003. The memorandum and the introduction to the questionnaire both assured recipients that their responses would be treated in strict confidence and their identity never linked to their responses, and that no personal details would be revealed. The same list of staff were also emailed about the survey.

The survey sample

The sample for the survey instrument was derived from the list of all staff registered as Instructors in the MyUni database. The list comprised the coordinators of all University of Adelaide undergraduate and postgraduate courses and any other staff (academic and general staff) designated as instructors in any course. The questionnaire was sent by internal mail to 1073 staff on 4–5 February 2003.

Because all courses have an entry in MyUni, in principle this sampling method should have contacted teaching staff for all University of Adelaide courses. However, in order to access any teaching staff not included in the instructor list, we published an article with a link to the questionnaire in the University's internal electronic newsletter, *Inside Adelaide*, requesting teaching staff to complete the questionnaire.

The target population for the study was all University of Adelaide teaching staff and, in principle, the survey instrument was sent to all of these.

We received 156 usable questionnaires, a response rate of 14.5 per cent. This response rate compares favourably with the response rates for other surveys conducted with the MyUni users through ITS and with that achieved for the University values survey, which resulted in approximately an 18 per cent response.⁴ The response rate was considered adequate for the purposes and resources of the project and no follow-up was done.

Data reduction and analysis

Interviews

Notes from each interview were transcribed soon after the interview into a template (appendix 1). The transcribed interviews were then edited for clarity and completeness, and sent to the interviewees for verification. At this time permission was sought to identify the respondents and reproduce the interview transcripts in the report. Seven interviewees granted permission to use the full interview transcript in the report, a further three gave permission for their names to be provided in the report, and two preferred to remain anonymous. The names and transcripts for which permission has been received are included at appendix 3.

The information revealed in the interviews was examined closely and the findings reported directly without further data reduction or analysis.

Questionnaires

Data from the completed questionnaires were coded and entered by Loene Doube into an Excel spreadsheet and subsequently exported to SPSS version 11.5.0 (SPSS Inc 2002). There were 156 usable cases and 157 initial variables. The coding was validated by Susan Shannon, who checked the coding of one in ten questionnaires, and found one error. It was concluded that the coding was accurate.

⁴ Memo from the Executive Dean, Faculty of the Professions, to Deans, and circulated to staff, 14 May 2003.

Descriptive statistics were calculated using SPSS version 11.5.0 (SPSS Inc 2002). Some tests for significance were carried out by Mr John Petkov, Director of the Applied Statistics Unit, University of South Australia.

Responses to the qualitative open-ended questions were coded using categories derived initially from a sample of 15 questionnaires, and modified as the coding progressed. This yielded a large number of initial categories for each open-ended question. When all the questionnaires had been coded, the initial categories were collapsed into fewer categories, which identified broad issues for each question. The initial and final categories for the open-ended questions are shown in appendix 4.

Four further questionnaires were returned after coding was well under way. They were not coded, but their open-ended responses were recorded as part of the qualitative data.

Ethical considerations

The questionnaire was sent out with a covering memorandum. The memorandum and the introduction to the questionnaire both assured recipients that their responses would be treated in strict confidence and their identity never linked to their responses, and that no personal details would be revealed.

Initial negotiations prior to administering the University-wide survey were conducted with the Surveys Officer from the Office of Planning and Development. A copy of the questionnaire was lodged with the Office of Planning and Development in accordance with the University's Surveys policy.

Only the researchers have access to the completed questionnaires, and there is no information that can connect them to individuals. Completed questionnaires are kept in a safe place.

Limitations of the survey instrument

The pilot survey instrument was completed and returned by only three respondents, and comments were received from several other teaching staff. The responses led to some modification of the survey instrument.

The respondents to the final survey instrument generally appeared to understand the questions, and non-response rates were low for most questions (see chapter 4, Findings). A further indication of the efficacy of the instrument was high number of respondents who responded to open-ended questions.

However, one respondent was critical of the instrument. Coding also revealed some misunderstandings, the most prominent of which related to question 72 (concerning what needed to change so that respondents would use MyUni). Since clearly respondents may already have been using MyUni, the wording should also have indicated further or different use. Many respondents did interpret the question this way. Question 5 did not adequately differentiate between full and part-time and tenure status.

The term 'web-based teaching' was not understood by a few respondents. Over the instrument development and piloting period the length of the instrument was a major concern, and explanatory details were deleted from early drafts of the questionnaire in order to shorten it.

Another concern was the relatively low number of respondents who had not used web-based teaching tools, indicating the need for a more effective means of accessing the non-user target population. Several avenues of distributing the instrument were canvassed. The questionnaires were sent to the list of registered Instructors in MyUni. This list included course coordinators of all University of Adelaide courses, but also some general staff and staff who no longer

worked for the University – the latter indicated by 22 blank questionnaires returned with a note to this effect. However, in this instance, the responses from both users and non-users of web teaching tools yielded a wealth of data concerning adoption and use of web-supported teaching among University of Adelaide teaching staff.

In another instrument for further research, these issues would be addressed.

4 Findings

In this chapter the findings from the interviews and the survey are reported.

The detailed transcripts of the interviews are presented in appendix 3. For conclusions from individual interviews refer to the 'Conclusions' section of each transcript. In this chapter a summary of the interview findings is presented.

The survey findings are presented in the order of the questions in the survey instrument. Simple frequencies are presented for each survey question, and where appropriate further analysis is reported. For open-ended questions, the tabled frequencies comprise general categories derived from the more extensive original categories (see appendix 4), and examples of the respondents' comments are also given.

Recommendations that arise from the findings are presented for each survey question where appropriate. This leads to some repetition of recommendations, as well as some refining of similar recommendations as the chapter progresses. This was considered acceptable because of the survey-question-dependent structure of the chapter, and also because repetition gives some indication of the importance of some issues in the findings.

Interview findings

Generally, the 12 interviewees held strong positions, whatever those positions were. In seven instances the interviewees were early adopters, for whom the arrival of MyUni without consultation (with them) was somewhat unwelcome. They considered that, through research and action, they already knew what they, their students and their section needed. The advent of a centrally supported learning management system (LMS) was not the direction their research and practices would necessarily have supported.

Factors in non-adoption

Persistence with parallel systems

In three instances, respondents were continuing to use a parallel means of delivering to their students [PD, FB, TR]. These interviewees were early adopters and already had a well-functioning learning management system, which the functionality of MyUni largely replicated [PD, FB]. Some factors over which they exercised control in their local LMS were not centrally managed – for example, servers, downtime, staff access, networking, the portal and interface, local computer officers and the level of encryption and security.

Four other early adopters [PJ, MG, IC, JS] spoke enthusiastically of their 'conversion' to MyUni at a time when they could not have continued to support a parallel system in their own section due to staffing, hardware and software issues. Speaking to five administrators / managers of learning management systems in several faculties [GM, EP, GT, PH, LP] revealed that, in three of the five instances, they were administering and managing a parallel system to MyUni. It would be difficult if not impossible to ascertain to what extent the continuation of the system parallel to the centrally adopted and supported MyUni ensured ongoing employment and autonomy for these staff. In two instances the interviewees themselves placed learning material online for academics – in their sections academics did not manage their own learning sites within the LMS, and the interviewees gave valid reasons why this did not happen. In each instance valid reasons were also advanced for continuing to use the parallel system.

'Not built here' mentality

There is no underestimating the feeling of disenfranchisement that was expressed by some interviewees who had not adopted the centrally managed and supported learning management system. Such comments related to the belief that, while they were early adopters, with well functioning systems which they had built from scratch with no funding support, which they maintained and which served their needs well, there had been no survey of their needs, their experiences and support they might need before the introduction of MyUni and the exclusive central support for it.

This was well expressed as a 'not built here' mentality by one respondent who had extensive international experience constructing web sites. His experience was that unless systems were 'demand driven' instead of 'supply driven' (as he believed was the case at the University of Adelaide), you could build well-constructed web sites (here he was speaking of MyUni using Blackboard as an LMS) and 'wonder why no one comes'. This he believed was because ITS 'didn't do appropriate research in the beginning' and still 'don't come and talk about 'What are your issues in teaching and research?', instead offering: 'Here's a piece of software – you have to use it''. In this particular instance we can conclude that the respondent demanded a factual basis for decision-making from ITS and Client Services and a focus on how best to serve them, instead of a business model-driven proposal which has seen the proliferation of ghost sites.

Academic and research differences shaping LMS and web presence needs

Strongly held sectional differences accounted for much of the continuation of parallel systems discussed by the interviewees. One respondent felt that the professionalism of their section would be at risk if the University LMS were adopted. The enrolment and un-enrolment of students and staff was done through PeopleSoft, which for them was unwieldy – the lead times were inappropriate to their section, and the maintenance of their own server for their LMS ensured no downtime. Two interviewees pointed to this as a measure of the quality of their own systems.

This highlights again the belief that the autonomy of the different academic sections of the University, celebrated elsewhere in teaching and research and through line management encouraging individual priorities to be established and pursued with funding, continues into feelings of frustration and lack of self-government in the selection and support of a sole University-wide LMS – MyUni.

In particular, collaborative teaching and research needs were singled out as being poorly served by MyUni for Health Sciences – where large, secure networks desire the transfer of digital patient documentation – the enrolment, course module and file size limits on MyUni disregard many of the in-place imperatives for the type of material that needs to be uploaded and used for teaching and research. Further complications are added by the lack of integration of MyUni with the software of Royal Adelaide Hospital and Department of Health computers– on site and in rural areas. The respondent believed that these type of section-focused needs resulted in their 'being seen as a nuisance' to ITS. In particular the respondent believed that the local service agreements imposed by ITS did not acknowledge the limitations of the client's resources.

Administration and academic needs intersecting

In the Health Sciences there was a sense that ITS, although generic in their address, instead of negotiating with the professions and sectors, was dictating to them without any knowledge of the profession itself, and how best their needs could be served. There was a belief amongst respondents from these professions that administration should run parallel to academic needs, not dictate them.

Another example of the flexibility demanded for learning management systems was required by the tri-semesterisation of the Graduate School of Management, and their offshore offering. By mounting a web site using FrontPage they secured a low-cost, self-managed system which had the flexibility to enrol users to their specification and time frame. They had their own server. They prided themselves on their response time, lack of down time, nightly backup, and the readiness to enrol guest lecturers immediately. Overall they advised that their highest priorities were keeping their IT structure very very professional and maintaining response times.

Belief in the efficacy and benefit of web-based learning

One interviewee, a senior medicine academic, spoke eloquently about an issue which subsequently was picked up by many respondents to the survey – that they lacked ‘belief in the adoption of web-based teaching for quality learning outcomes:

Extremely little is online in our profession ... because medicine is still an ‘art’ which involves interaction with patients – [interactions] which are not replicable online. Attitudes and competence cannot be taught online. Role modelling in front of a computer is very difficult. Those are skills which the electronic media hasn’t got. It’s a cultural issue – not on skills but demeanour, effort and attitude – these are learnt through interaction. Most clinicians still believe the essentials of medicine are learned in real life. Knowledge, understanding and enquiry are delivered well online ... No-one has ever shown that online delivery has created any better skills than conventional teaching ... It’s OK if you cannot deliver it any other way.

Perspective of an IT support professional working with academics

Another interviewee, who was a contracted IT professional (not a member of the central University ITS), had observed with the start-up phase of MyUni (for which his firm had provided support to two sections of the University) that the staff fell into two groups. They were either already highly competent and confident early adopters who handled new technology with few hassles. People who were less confident themselves fell into two groups – those who do try and make mistakes and then prefer not to adopt or try again; and those who have someone they know, trust and upon whom they can rely for hand-holding. They adopt new technologies less confidently but more readily. The key to engendering this confidence was in building relationships with IT professionals and those in need of support. The respondent reflected that, whilst technology was well funded, a less well funded area was that of ‘helping’ tail enders who needed time, exposure and the confirmation that they would not be able to survive without the relevant technology. In his experience these staff ‘came on board’ when they observed others getting over the hump of adoption. At that point, given sufficient appropriate personalised support, adoption would become more widespread. A key to this widespread adoption for non-adopters was to visually see it working, and not just know that it was available to use.

Factors in adoption

Three respondents [PJ, IC and MG], as adopters previously using other systems for web-based delivery of learning materials, spoke of the early benefits to them and their sections of MyUni as a universal and centrally supported LMS compared with the need to establish and manage a dispersed system whilst holding an academic appointment.

The increased ease of communication with students was sufficiently highly valued by IC, as were the Group Pages function in MyUni and the ability to set up groups to facilitate communication to outweigh other clunkiness and disadvantages. Working between campuses (Waite, Roseworthy and North Terrace) this communication enhancement was well liked by the students too when surveyed in 2001. His misgivings related to the Gradebook, (from the manual entry to the inability to export), to the functionality of the Discussion Board set-up and the poor administration interface with PeopleSoft so that even when students were removed from the course and enrolment they were not removed from the Gradebook and their contributions were not removed from the Discussion Board.

MyUni adoption benefits may be in the hands of progressive technoliterate teachers

Another early adopter and award-winning University teacher responded that after pioneering web-based science teaching at the University of Adelaide he welcomed the arrival of MyUni in Semester 2, 2001. It was easy, transportable across the whole University, and very integrated with the email and communication systems in place. While he would like to use the features more (discussion boards etc), the intellectual effort to do so, including the monitoring role to ensure appropriate language usage by large classes, was a major impediment to adoption. He further regretted that the uploading of his 1000+ already developed web pages, and large PowerPoint and video files into MyUni was technically not possible and that he believed finding the time to rectify the impediments which prevented their uploading was not possible given the loss of eight staff from their section in the past two years.

Whilst the students 'love' using the Announcements function and the increased communication, he noted that the adopters in his section were typically the four or five young, enthusiastic and techno-literate staff who had replaced the eight staff who had left rather than academics of mature years with a lifetime of teaching behind them who perhaps were less able to adopt and adapt to the new technologies with ease.

In closing he reflected that whilst he had pioneered many web-based initiatives in science teaching and learning he had always felt, and continued to feel, that the University did not value this area. The outward signs of this were that not enough money, support and high-level institutional support were proffered for the value of teaching and learning.

Widespread adoption of MyUni leading to unintended consequences

A respondent [MG] from Commerce recounted a similar tale to those of IC and PJ – of progressive adoption of, and gradual adaptation to, web-based learning in their school over many years, with perhaps half the staff having an online presence for their courses through web pages and online teaching aids. The decision to adopt MyUni was not difficult for Commerce as there were many obvious benefits:

- public, institutional support compared with retaining courses in Online Adelaide with no recurrent funding
- commitment to MyUni by the DVC(E) and Head, ITS

However, the difficulties associated with their off-campus delivery to the Sepang Institute of Technology, where Level 1 and Level 2 courses are taught, has shown up the inflexibility of enrolment processes for staff and students. (Online Adelaide did not support this distributed learning but the School's own system did.) These issues about off-shore delivery were 'hidden' at the time of making the decision to adopt MyUni (November 2001). However, despite these major difficulties, Commerce continue to receive strong administrative and technical support and students are comfortable with MyUni. Approximately 75 per cent of Commerce staff adopted MyUni as their standard platform in Semester2, 2002, although there was no compulsion to do so.

They have not conducted formal evaluations but through open-ended questions have discerned that students are concerned about after-hours access to computer suites as the University moves further into an online environment. Persistent issues with the unwieldiness of the MyUni Gradebook and its operation, and the enrolment process integration with PeopleSoft, were highlighted in the interview.

However, these were minor irritations compared with their general concerning issue, which was the perception, or knowledge, by students that because PowerPoint presentations or slides would be available online lecture attendance was less essential. This had led to a major reduction in class attendance at lectures. MG believed that this was a misunderstanding on the part of students, and that re-education was the answer – the result, however, was that lecturers were now not making PowerPoint files available online to encourage lecture attendance, which clearly was against the spirit of an LMS.

Conclusion from interviews

Non-adopters and parallel systems users had well-developed arguments and rationales for their persistence with their mode of operation – whether based on beliefs about teaching and learning, technology or the stability and features of their own platform compared with MyUni.

Adopters countered many of these arguments as all had previously been operating within similar parallel or simple web-page systems. They summarised their beliefs with the suggestion that they were past proselytising the benefits of MyUni – that a centrally supported, stable and integrated system, despite myriad irritations, was surely preferable to multiple school or department-based systems: 'Why should students have to use a parallel system when MyUni is working, and working well?' However, their advice was that the question of uptake should be resolved at departmental level, not University mandated.

Recommendations from interviews

- 1 Prioritise staff development, training, and other support for web-supported teaching using MyUni for teaching staff at the Roseworthy Campus. These staff cannot often travel to the North Terrace Campus for training and staff development.
- 2 The University as a whole could derive benefit from systems and functionality for web-supported teaching that have already been developed within the University. A more consultative approach could support and supplement the functionality and extent of use of MyUni.
- 3 ITS needs to work actively to dispel the notion that it is autocratic and non-consultative, and to change the notion in some areas of the University that ITS 'delivers' without adequate consultation of needs, requirements and sectional differences.

- 4 Acknowledge and support the needs of different faculties, departments and schools in relation to hardware, software and infrastructure, staff development and training, and other support, and in relation to different levels of adoption of web-supported teaching.
- 5 Provide staff development to different faculties, departments and schools in relation to the different ways in which web-supported teaching can be used in different disciplines.

Survey findings

The survey data were analysed using SPSS version 11.5.0 (SPSS Inc. 2002). There were 156 usable cases. Throughout the findings the number of relevant cases is indicated for each table/analysis. The percentages were calculated using valid cases (missing cases were excluded), and the number of missing cases is noted for each question.

The responses to open-ended questions are presented in two ways. The initial categories determined during coding were collapsed into more general categories. Where possible these are consistent for the different open-ended questions. For each open-ended question, frequencies for the general categories are presented, followed by a table with a selection of the respondents' comments transcribed from the questionnaires. The comments are grouped where possible under the broad categories into which the initial categories were collected. Where this was not possible, the comment is identified as a mixed-category response.

On some variables figures from the sample were compared to figures for academic staff at the University. The University data were accessed from the University Office of Planning and Development website (<http://www.adelaide.edu.au/opd/stats/>), or supplied by the University Planning Officer, Carol Moore. The University numbers are for full-time and part-time contract and tenured staff. The University figures used did not include numbers of casual staff. There are approximately 2000 casual academic staff (Carol Moore, personal communication, May 2003), making up 361 FTEs (full-time equivalents).

The absence of casual staff in the comparison figures used represents a weakness in the data analysed, since the sample includes casual staff.

The findings are presented in the order of the questions in the questionnaire, in the following sections:

- Section A: About the respondents (all respondents)
- Section B: For respondents who had never used web-based teaching tools
- Section C: For respondents who had used web-based teaching tools
- Section D: Learning outcomes and values (for respondents who had used web-based teaching tools)
- Section E: Teaching outcomes and values (for respondents who had used web-based teaching tools)
- Section F: Future intentions about web teaching tools at the University of Adelaide (all respondents)

Section A: About the respondents

Question 1: In which Department or School do you teach?

Respondents were asked in which department or school they taught. To avoid any possibility of identifying a respondent, the responses were coded into faculties. Table 1.1 presents the distribution by faculty for the respondents and for academics at the University as a whole, and figure 1.1 shows the faculty distribution of respondents.

Table 1.1 Faculty in which respondent taught, and academic staff in each faculty at the University of Adelaide

Faculty	Sample		University	
	Frequency	Per cent	Frequency	Per cent
Engineering, Computer and Mathematical Sciences	26	17.4	130	13.0
Health Sciences	31	20.8	249	24.9
Humanities and Social Sciences	23	15.4	155	15.5
Professions	18	12.1	113	11.3
Sciences	50	33.6	332	33.2
Library	1	0.7	20	2.0
Total	149	100.0	999	99.9

Notes: Missing cases=7. No significant differences were found: chi-square=4,67; df=5; p= <0.4578.
Sample data include casuals; University figures do not include casuals.

Source for University figures: Fulltime and Fractional Fulltime Staff (Persons) 2002 - 31st March 2002
DEST Submission.[<http://www.adelaide.edu.au/opd/stats/>]

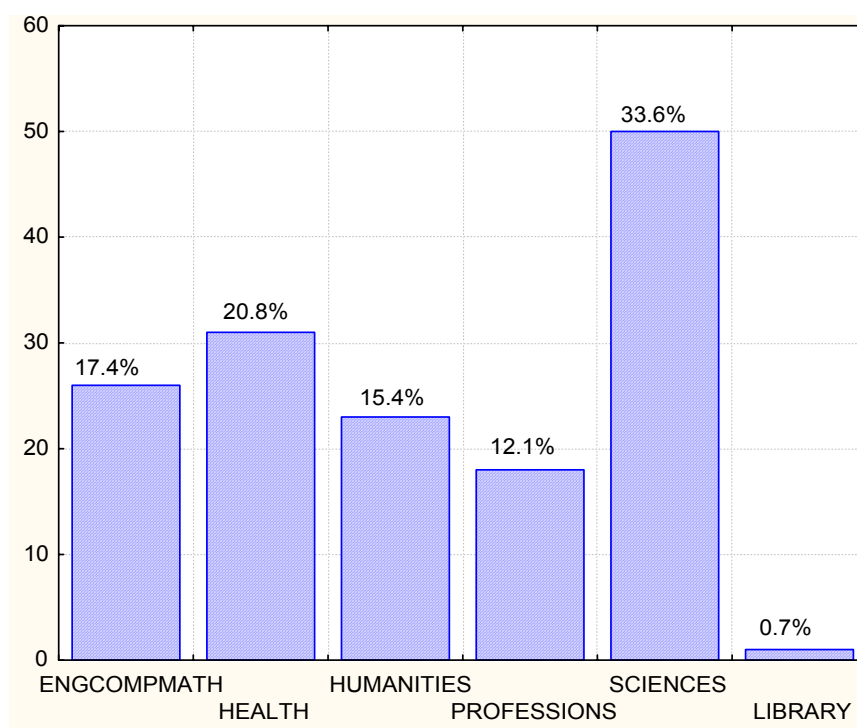


Figure 1.1 Distribution of respondents in each faculty

The faculty representation was not significantly different from that for academic staff in the University as a whole, and so the sample can be said to be representative of the University population of academic staff.

Thirty-four per cent of respondents were situated in the Faculty of the Sciences. Over 70 per cent of respondents were from science-related disciplines. Apart from the one respondent from the Library, the Faculty of the Professions was least represented, with 12 per cent of respondents.

Question 2: Do you teach:

- Undergraduate courses
- Postgraduate courses

Respondents could select one or both items. Table 2.1 and figure 2.1 show the distributions.

Table 2.1 Whether respondents taught undergraduate, and postgraduate courses

	Undergraduate courses		Postgraduate courses	
	Frequency	Per cent	Frequency	Per cent
Yes	149	95.5	66	42.3
No	7	4.5	90	57.7
Total	156	100.0	156	100.0

Note: Missing cases=0.

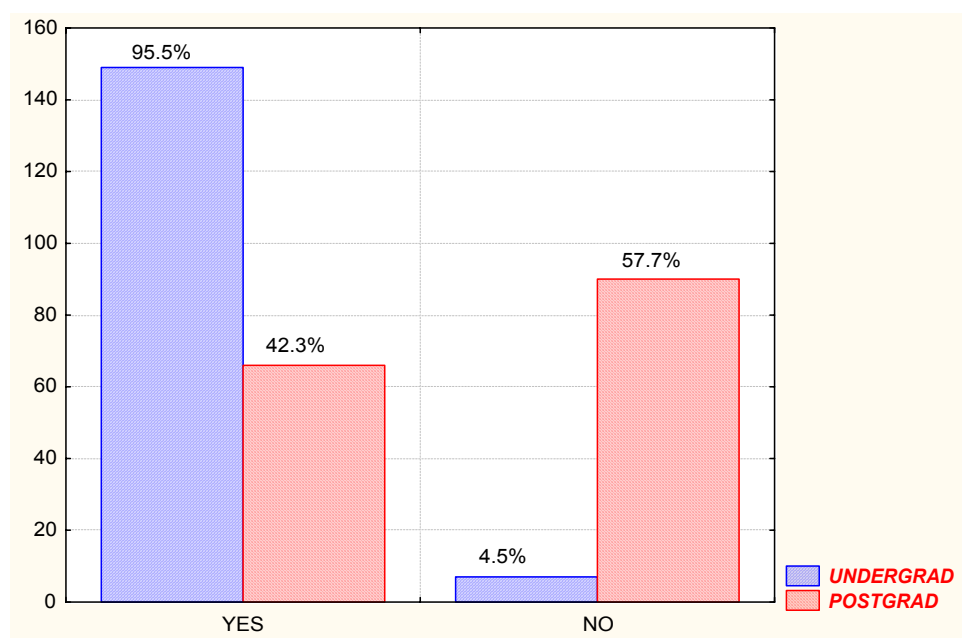


Figure 2.1 Respondents who taught undergraduate and postgraduate courses

Ninety-six per cent of respondents taught undergraduate courses, and 42 per cent taught postgraduate courses, most of the latter in addition to undergraduate courses (determined by crosstabulation).

Recommendation

2.1 Direct staff development and support in the first instance towards the needs of undergraduate teaching – as those teachers also have responsibility for postgraduate teaching.

Question 3: How many years ago did you start teaching at university?

- < 1
- 1–5
- 6-10
- 11–15
- > 15

Table 3.1 and figure 3.1 present the results.

Table 3.1 Years since commencing teaching at university (respondents)

Years teaching	Frequency	Per cent
Less than 1	16	10.3
1 to 5	49	31.6
6 to 10	31	20.0
11 to 15	17	11.0
More than 15	42	27.1
Total	155	100.0

Note: Missing cases=1.

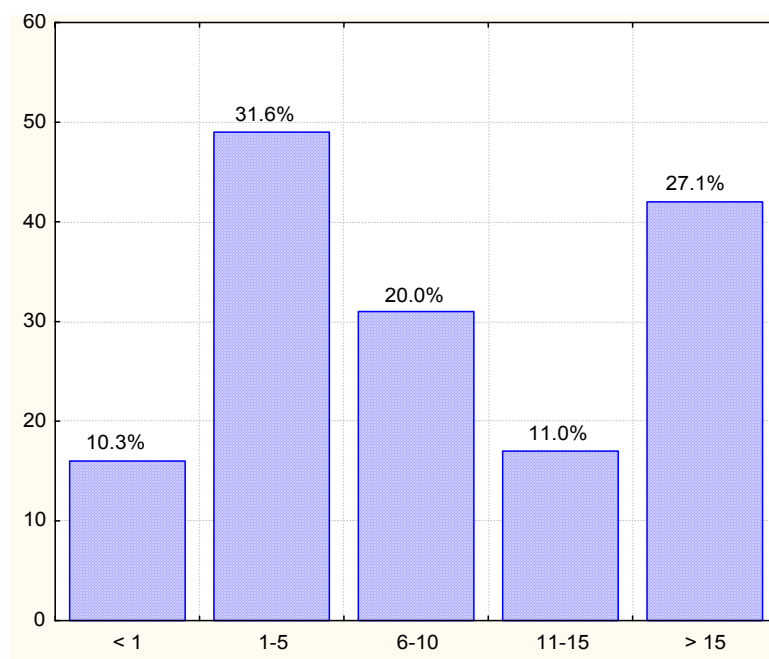


Figure 3.1 Years since respondents began teaching at university

More than 40 per cent of respondents had been teaching for five years or less, and close to 40 per cent had been teaching for more than 10 years.

There were no details in the University statistics about length of time academic staff had been teaching. Figures for length of service with the University for all academics except casual staff were established using ‘original hire date’ and the most recent date at which a ‘snapshot’ of staff numbers had been entered into the University Human Resources database (31 March 2003). These figures are shown in table 3.2.

Table 3.2 Length of service for non-casual academic staff at the University of Adelaide

Length of service (yrs)	Frequency	Per cent
1 to 10	250	35.4
11 to 20	289	40.9
More than 20	167	23.7
Total	706	100.0

Source: Carol Moore, Planning Officer, Office of Planning and Development, University of Adelaide. Data are dated at 31 March 2001.

Thirty-five per cent of Adelaide University academics had worked at the University for ten years or fewer. This contrasts strongly with the figure of 62 per cent of the respondents who had been teaching for ten years or fewer. Close to 65 per cent of University academics had

been at the University for 11 or more years, while 38 per cent of the sample had been teaching for 11 or more years. Clearly the sample of respondents had a relatively high representation of academics with fewer years of teaching experience. This is likely to mean that they tended to be younger than the average University of Adelaide teaching staff member, although figures for age of the sample were not collected. Whether there are implications of this for use of web teaching tools is explored below.

Question 4 Your sex:

Table 4.1 shows the sex of respondents and of academic staff at the University.

Table 4.1 Sex of respondents, and of academic staff at the University of Adelaide

	Sample		University	
	Frequency	Per cent	Frequency	Per cent
Male	91	59.1	691	69.2
Female	63	40.9	308	30.1
Total	154	100.0	999	100.0

Notes: Missing cases=2. The sample was significantly different from the University as a whole: chi-square=7.33; df=1; p= <.0068.

Sample data include casuals; University figures do not include casuals.

Source for University data: Fulltime and Fractional Fulltime Staff (Persons) 2002 - 31st March 2002 DEST Submission. [<http://www.adelaide.edu.au/opd/stats/>]

Just under 41 per cent of the respondents were female, and for the whole University 30 per cent of academic staff are female. This difference is significant, meaning that more women responded to the survey than would be expected based on the University population of academic staff.

Question 5: Is your position at the University of Adelaide:

- Full time
- Fractional
- Tenured
- Tenure track
- Contract
- Casual

These figures are presented for the respondents in table 5.1 and figure 5.1.

Table 5.1 Tenure and full-time/part-time status of respondents

Position	Frequency	Per cent
Full time tenured	59	38.1
Full time tenure track	18	11.6
Full time	22	14.2
Full time contract	10	6.5
Tenured	2	1.3
Tenure track	3	1.9
Contract	4	2.6
Casual	17	11.0
Fractional	6	3.9
Fractional contract	5	3.2
Fractional tenured	6	3.9
Fractional casual	3	1.9
Total	155	100.0

Note: Missing cases=1.

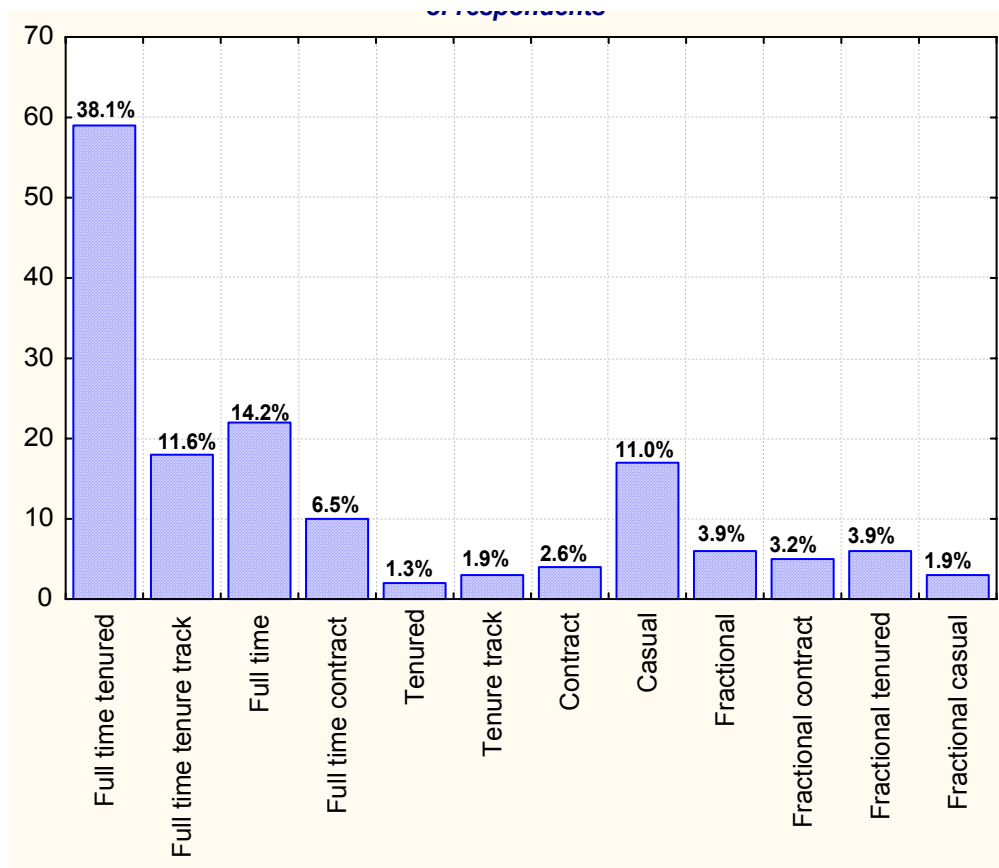


Figure 5.1 Tenure and full-time-part-time status of respondents

By far the majority of the respondents were full-time tenured or on a tenure track. There were fewer fractional and fewer casual or contract staff.

Because of the way this question was asked, it was not possible in a few cases to determine whether respondents were tenured, and in some others it was not possible to determine whether they were employed full or part time. Tables 5.2 and 5.3 show tenure status and full or part-time status respectively for those respondents for whom these figures could be determined, and compare them with figures for the University as a whole.

Table 5.2 Full-time / part-time status of respondents, and for academics at the University of Adelaide

Full-time/part-time	Sample		University	
	Frequency	Per cent	Frequency	Per cent
Full time	109	84.4	854	85.5
Part time	20	15.5	145	14.5
Total	129	100.0	999	100.0

Notes: missing cases = 1 plus 26 for whom status could not be determined.
 No significant differences were found: chi-square=0.102; df=1; p= <0.7490.
 In the University statistics, the term 'fractional' is used; in the questionnaire, the term 'part-time' was used.
 Source for University figures: Fulltime and Fractional Fulltime Staff (Persons) 2002 – 31st March 2002
 DEST Submission. [<http://www.adelaide.edu.au/opd/stats/>]

Table 5.3 Tenured / not tenured status of respondents, and for academics at the University of Adelaide

Tenured/ not tenured	Sample		University*	
	Frequency	Per cent	Frequency	Per cent
Tenured/tenure track	88	69.3	578	57.9
Not tenured**	39	30.7	421	42.1
Total	127	100.0	999	100.0

Notes: missing cases = 1 plus 28 for whom status could not be determined.

* University figures measure 'continuing' and 'fixed' appointments.

** For the sample 'not tenured' included casual staff; for the University figures it did not.

There were significant differences between the sample and the University population: chi-square=6.809; df=1; p= <0.0091.

Source for University figures: Fulltime and Fractional Fulltime Staff (Persons) 2002 - 31st March 2002 DEST Submission. [<http://www.adelaide.edu.au/opd/stats/>]

84.4 per cent of the respondents were full-time staff, compared with a very similar proportion for academics at the University as a whole. The difference was not significant, meaning that the sample was representative of the population of academics at the University in full and part-time employment.

69.3 per cent of the respondents were tenured or on a tenure track, significantly higher than the 'continuing' figure (57.9 per cent) for the University as a whole. Thus there were more tenured staff in the sample than would be expected from the population as a whole, especially considering that the sample included casual staff and the University figures did not.

Conversely, the proportion of academic staff in the sample who were not tenured (30.7 per cent) was significantly lower than the proportion for the University who were not continuing (42.1 per cent). This is despite the fact that casual staff (13 per cent of the sample) were represented in the sample figures and not in the University figures. This difference needs to be kept in mind when discussing the results.

Recommendation

5.1 Develop and target staff development and support towards casual and contract staff.

Questions 6–9

Questions 6–9 investigated the respondents' use of computer-related tools in teaching. The variables were all 7-point Likert scales where 1 denoted 'nil' use of a computer-related teaching tool, and 7 denoted 'a lot' of use. The means and standard deviations were calculated for these variables.

Question 6: How much do you use computers in your teaching?

Table 6.1 Respondents' extent of computer use in teaching

Extent of computer use	Frequency	Per cent
1 Nil	8	5.2
2	18	11.7
3	15	9.7
4 Moderate	17	11.0
5	21	13.6
6	24	15.6
7 A lot	51	33.1
Total	154	100.0

Note: Missing cases=2.

Mean = 4.95, Std dev = 1.971; kurtosis = -1.043

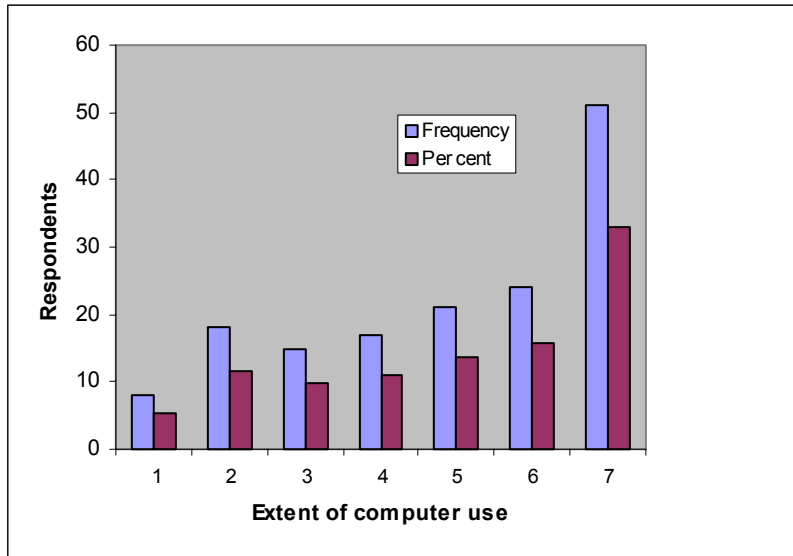


Figure 6.1 Respondents' extent of computer use in teaching

The mean for computer use in teaching among the respondents was 4.95. While the majority (62.3 per cent) of respondents used computers in their teaching more than a moderate amount, more than one-quarter of respondents used them not at all or less than a moderate amount. There may be a wide range of definitions among respondents concerning what constitutes 'using computers in teaching', but this is unlikely to wholly account for the response that more than 25 per cent declared that they used computers in their teaching to less than a moderate amount.

Question 7: How much do you use internet resources in your teaching?

Table 7.1 Respondents' extent of use of internet resources in teaching

Extent of internet use	Frequency	Per cent
1 Nil	12	7.7
2	24	15.4
3	14	9.0
4 Moderate	31	19.9
5	35	22.4
6	17	10.9
7 A lot	23	14.7
Total	156	100.0

Note: missing cases=0
 Mean = 4.26; SD=1.828; kurtosis= -0.969.

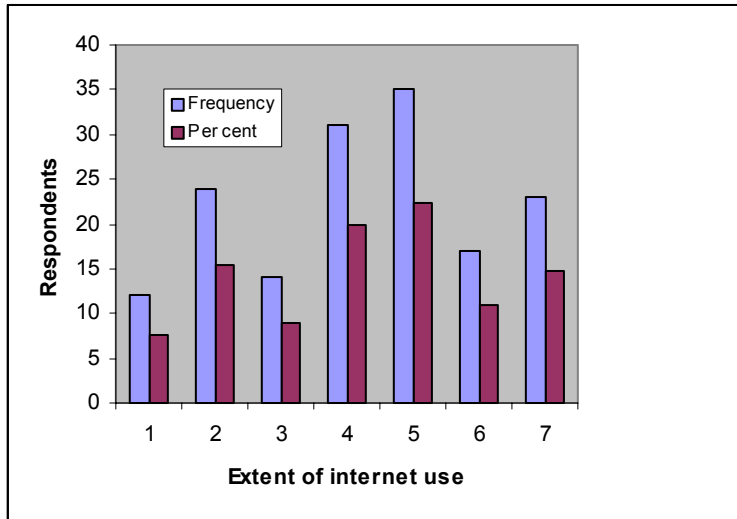


Figure 7.1 Respondents' extent of internet use in teaching

The mean of the use of internet resources in teaching was 4.26, lower than the mean for use of computers in teaching (4.95). A greater proportion of respondents said they used the internet to less than a moderate extent in their teaching (32.1 per cent) than was the case for the use of computers (26.6 per cent).

The greatest difference between computer use and internet use in teaching was at the level of 'a lot' of use: 33 per cent of respondents used computers a lot, and only 15 per cent used the internet a lot in their teaching.

Recommendations

- 7.1 Raise awareness of the benefits and processes of using the internet to support teaching.
- 7.2 Promote the University's current support for internet use in teaching, including resources and support provided not only through staff development but also through the University website, the Barr Smith Library, search resources, off-campus library sites and other existing resources.
- 7.3 Consider the extent to which these support services are integrated and made readily visible and accessible to staff who may benefit from their use.

Question 8: To what extent have you ever used web-based teaching?

Table 8.1 Extent of use of web-based teaching by respondents

Extent of web based teaching	Frequency	Per cent
1 Nil	35	22.6
2	29	18.7
3	21	13.5
4 Moderate	16	10.3
5	25	16.1
6	14	9.0
7 A lot	15	9.7
Total	155	100.0

Note: missing cases=1
 Mean = 3.45; SD=2.007; kurtosis= -1.179.

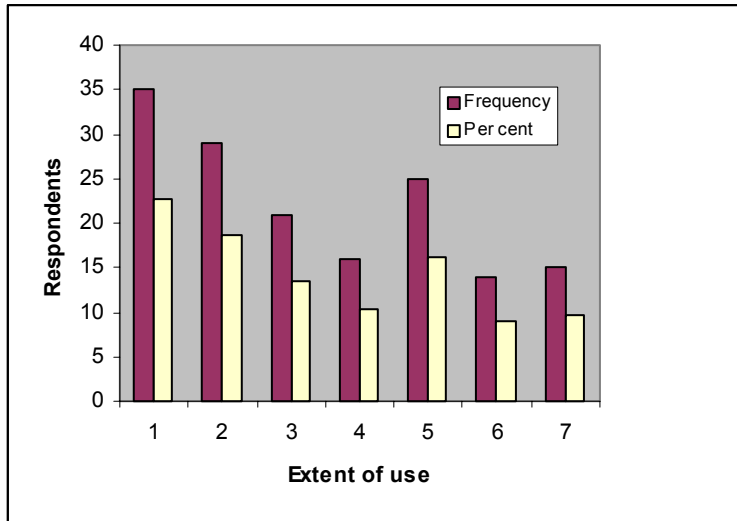


Figure 8.1 Respondents' extent of use of web-based teaching

The mean for use ever of web-based teaching among the respondents was 3.45, lower than for both use of computers and use of the internet in teaching.

Even fewer respondents (10 per cent) said they had used web-based teaching 'a lot' than was the case for use of computers (33 per cent) or internet resources (15 per cent). Similarly, a greater proportion (55 per cent) than for the previous uses said they had used web-based teaching to less than a moderate extent.

A crosstabulation was performed between whether respondents had used web-based teaching and the length of time they had been teaching at university. The results are presented in table 8.2.

Table 8.2 Use of web-based teaching by length of teaching at university (respondents)

Years teaching at university	Had used web tools		Had not used web tools	
	Frequency	Per cent	Frequency	Per cent
Up to 5	47	39.5	18	51.9
6–15	40	33.6	8	22.9
More than 15	32	26.9	9	25.7
Total	119	100.0	35	100.5

Note: Missing cases = 1. Chi square = 1.930; df = 2; the differences were not significant.

There were only small differences in length of teaching at university among respondents who had used web teaching tools. And while the differences were not significant it is interesting to note that more than half of respondents who had not used web teaching tools had been teaching at university for five years or fewer.

There were also no significant differences in the use of web teaching tools between male and female respondents, tenured/tenure track and non-tenured respondents, or respondents from different faculties. The figures for faculty are presented in table 8.3.

Table 8.3 Use of web teaching tools by respondents from different faculties

Use of web tools	Eng, Comp, Maths Sci		Health Sciences		Humanities & Soc Sciences		Professions		Sciences		Library	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Yes	22	84.6	21	67.7	14	63.6	16	88.9	39	78.0	1	100.0
No	4	15.4	10	32.3	8	36.4	2	11.1	11	22.0	0	0.0
Total	26	100.0	31	100.0	22	100.0	18	100.0	50	100.0	1	100

Notes: missing cases = 8. Chi square = 6.178, df = 5; the differences were not significant.

The faculty with the highest use among respondents was the Professions (setting aside the one respondent from the Library), with 90 per cent of respondents having used web teaching tools. The lowest users were the Faculties of Health Sciences and Humanities and Social Sciences, with around two-thirds of these respondents having used web teaching tools. However, these differences were not significant.

When the relationship between use of web teaching tools and full or part-time employment status is examined a different picture emerges (table 8.4).

Table 8.4 Use of web-based teaching by full-time/part-time employment status of respondents

Full-time / Part-time	Had used web tools		Had not used web tools	
	Frequency	Per cent	Frequency	Per cent
Full time	89	89.9	19	65.5
Part time	10	10.1	10	34.5
Total	99	100.0	29	100.0

Note: Missing cases = 1 plus 28 for whom employment status could not be determined
Chi square = 10.114, df = 1; p = < 0.001.

Respondents who had used web teaching tools were significantly more likely to be full-time than part-time employees.

Thus there were no significant differences in the use of web teaching tools on the measures faculty, tenure status, sex, or length of time respondents had taught at university. But full-time employees were more likely to have used these tools than part-time employees. This is not likely to reflect the (perhaps insecure) tenure status of part-time employees since there was no relationship between tenure status and use of web teaching among the respondents.

Since most of the sample had used or were using web teaching tools, these findings may not be representative of teaching staff as a whole at the University. Further research could shed light on subgroups within the University that are most in need of support to more effectively use MyUni or other web teaching tools to support their teaching.

Recommendations

- 8.1 Focus some staff development and training on means to familiarise different subgroups of teachers with web-based teaching and extend their use of MyUni, such as newer and part-time staff.
- 8.2 Incorporate familiarisation with the use and benefits of web-supported teaching into the Teaching at University course offered by the LTDU.
- 8.3 Establish a structured pathway for teaching staff to develop an increasing use of web-supported teaching. Consider accreditation for such structured staff development.

Question 9: To what extent have you ever used a web teaching platform (e.g. MyUni, Blackboard or similar platform)?

Table 9.1 Extent of use of a web teaching platform by respondents

Extent of web platform use	Frequency	Per cent
1 Nil	28	17.9
2	10	6.4
3	16	10.3
4 Moderate	23	14.7
5	24	15.4
6	27	17.3
7 A lot	28	17.9
Total	156	100.0

Note: missing cases=0
 Mean = 4.27; SD=2.096; kurtosis= -1.212.

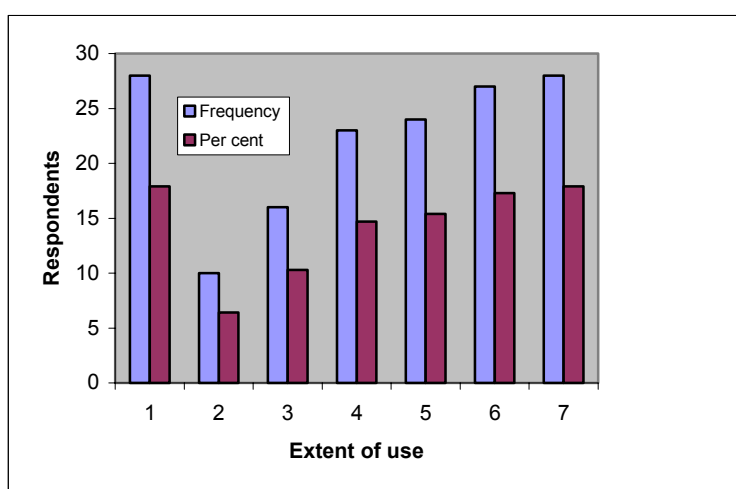


Figure 9.1 Extent of use of a web teaching platform by respondents

The mean of the extent to which respondents had ever used a web teaching platform such as Blackboard or MyUni was 4.27, greater than the use of web-based teaching (mean=3.45). Half of the respondents said they had used such a platform to greater than a moderate extent, while 35 per cent said they had used this mode to less than a moderate extent.

It may be that some respondents who use MyUni (discussed later in the report) consider that the extent of their use of such a (structured, supported) platform does not comprise web-based teaching. To an extent the issue may be one of nomenclature, and it may also reflect how respondents use MyUni and their conceptions of teaching and learning at university (discussed later in the findings).

Recommendations

- 9.1 Offer a wider range of staff development and other support relating to the costs and benefits, and the use, of computers and the internet in teaching.

Questions 10 and 11

Questions 10 and 11 relate to the value respondents placed on the use of computers and web teaching tools in higher education teaching. They used 7-point Likert scales where 1 denoted ‘none’ and 7 denoted ‘very high’ value.

Question 10: What value do you place on computers in higher education teaching?

Table 10.1 Value respondents placed on the use of computers in teaching

	Frequency	Per cent
1 None	1	0.6
2	10	6.5
3	9	5.8
4 Moderate value	17	11.0
5	38	24.7
6	36	23.4
7 Very high	43	27.9
Total	154	100.0

Note: missing cases=2
Mean = 5.34; SD=1.510; kurtosis= -0.097.

The mean value the respondents placed on computers in higher education was 5.34, and accordingly 76 per cent valued their use to more than a moderate extent. Few, less than 13 per cent, of respondents said they valued computers in teaching to less than a moderate extent.

Question 11: What value do you place on web teaching tools in HE teaching?

Table 11.1 Value respondents placed on the use of web teaching tools in higher education teaching

	Frequency	Per cent
1 None	3	2.0
2	18	12.0
3	21	14.0
4 Moderate value	27	18.0
5	36	24.0
6	26	17.3
7 Very high	19	12.7
Total	150	100.0

Note: missing cases=6
Mean = 4.53; SD=1.617; kurtosis= -0.863.

The mean value placed by the respondents on the use of web teaching tools in higher education was 4.53, and 54 per cent valued them to more than a moderate extent. However, 28 per cent said they valued the use of web teaching tools to less than a moderate extent.

The figures in tables 6.1, 8.1, 10.1 and 11.1 reveal that there were gaps between respondents' assessment of their use of both computers and web teaching tools and the value they placed on these. To make these differences more accessible, table 11.2 summarises the figures.

Table 11.2 Respondents' responses on their use of and value placed on computers and web teaching tools in higher education teaching

	Less than moderate		Moderate		More than moderate		Mean*	SD
	No.	%	No.	%	No.	%		
Use of computers	41	26.6	17	11.0	96	62.3	4.95	1.971
Value of computers	20	13.0	17	11.0	117	76.0	5.34	1.510
Use of web teaching tools	85	54.8	16	10.3	54	34.8	3.45	2.007
Value of web teaching tools	42	28.0	27	18.0	81	54.0	4.53	1.617

Note: * The means were calculated from the 7-point scales.

The mean of the value the respondents placed on computers in higher education (5.34) was higher than the mean for their use of computers in teaching (4.95). Only 13 per cent of

respondents *valued* computers in teaching to less than a moderate extent, while close to 30 per cent *used* them to less than a moderate extent.

The mean value placed by respondents on web teaching tools in higher education (4.53) was also higher than the mean for their use (3.45). 28 per cent of respondents *valued* web teaching tools in higher education to less than a moderate extent, while 55 per cent *used* them to less than a moderate extent. Figure 11.1 illustrates the value and use of web teaching tools.

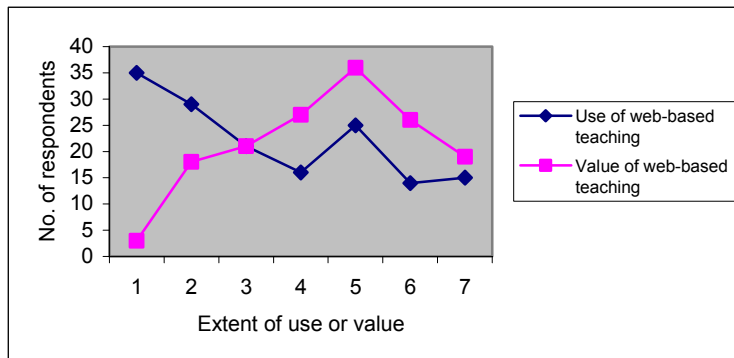


Figure 11.1 Comparison of the use of and value placed on web-based teaching by respondents

There was also a large gap between the 76 per cent of respondents who valued *computers* in tertiary education to more than a moderate extent, and the 54 per cent who valued *web teaching tools* to more than a moderate extent.

Some possible reasons for these gaps are explored in the findings for later questions.

Recommendations from questions 10 and 11

11.1 Staff development/training and support could seek to minimise the gaps between the value placed on these electronic resources and the extent of their use by teaching staff.

Question 12: How much do you know about MyUni?

Question 12 also used a 7-point Likert scale where 1 denoted ‘nothing’ and 7 denoted ‘a lot’ of knowledge of MyUni.

Table 12.1 Extent of knowledge of MyUni among respondents

	Frequency	Per cent
1 Nothing	5	3.2
2	22	14.2
3	14	9.0
4 A moderate amount	21	13.5
5	37	23.9
6	31	20.0
7 A lot	25	16.1
Total	155	100.0

Note: missing cases=1
Mean = 4.65; SD=1.742; kurtosis= -0.897.

While the mean extent of knowledge of MyUni was 4.65, 26 per cent of respondents claimed to know less than a moderate amount about MyUni, with five respondents saying they knew nothing at all about it.

At the other end of the scale 60 per cent of respondents knew more than a moderate amount about MyUni, including 16 per cent who claimed to know a lot.

The extent of knowledge of MyUni and the mean value placed on the use of web teaching tools by the respondents are encouraging, but their lower use of these tools, and the proportion of respondents who indicated that they knew less than a moderate amount about MyUni again highlight gaps.

Recommendation

- 12.1 Promote the use of MyUni as a University-wide learning support system through staff development and in other ways, including existing University information resources such as Inside Adelaide, and by showcasing effective and innovative uses of MyUni to support learning and teaching.

Summary, section A

Section A of the questionnaire sought background information about respondents and their attitudes to and use of computer-related resources in teaching.

Most respondents held full-time tenured or tenure-track positions, and most taught undergraduate courses. Compared with the University as a whole, the sample had an over-representation of tenured/tenure track staff, of less experienced (in teaching) staff, and of females. It is important to keep in mind that the sample was not representative of the whole University academic staff on these measures.

The use by respondents of web teaching tools was not matched by the value they placed on them, or by the knowledge they considered they had about MyUni, revealing a gap that may provide an opportunity for effective support activities.

Section B: For respondents who had never used web-based teaching tools

Questions 13–16 applied to respondents who had never used web-based teaching tools. Because some respondents who had used these tools also completed this part of the questionnaire, respondents who answered ‘nil’ to question 8, ‘To what extent have you ever used web-based teaching?’ were selected for analysis of the fixed-response questions in this section. There were 36 such respondents.

Question 13: Would you like to use web-based teaching tools?

Table 13.1 Whether respondents would like to use web-based teaching tools (respondents who had never used them)

	Frequency	Per cent
Yes	18	60.0
No	6	20.0
Don't know	6	20.0
Total	30	100.0

Note: missing cases=6.

Sixty per cent of the respondents who had never used web-based teaching tools said they would like to do so, while another 20 per cent were undecided. A further 20 per cent reported that they would not like to adopt web-based teaching tools.

Recommendations

13.1 Focus some staff development activities towards non-users of web-supported teaching.

13.2 Seek to increase understanding of the benefits of online learning and teaching among those who are undecided about their future use of web-supported teaching.

The barriers this group identified to their using web-based teaching tools are explored below. These will inform how staff development activities and support for this group might be focussed.

Question 14: Which of the following factors would impact upon your decision about adopting web-based teaching?

- Personal motivation
- Quality of learning and teaching
- Your conception of teaching at university
- Staff development
- IT training
- Your own skills
- Work issues
- University decision making
- Course administration
- Funds
- Technology issues
- Other

Items were presented as binary variables, and respondents who had never used web-based teaching tools were asked to indicate whether each factor would affect their decision about adopting web-based teaching. Table 14.1 shows their responses.

Table 14.1 Factors that would influence respondents' decision about using web-based teaching (non-users)

Factor	Yes	Per cent	No	Per cent
Personal motivation	9	29.0	22	71.0
Quality of learning and teaching	21	58.3	10	27.8
Your conception of teaching at university	13	41.9	18	58.1
Staff development	8	25.8	23	74.2
IT training	13	41.9	18	58.1
Your own skills	12	38.7	19	61.3
Work issues	7	22.6	24	77.4
University decision making	5	16.1	26	83.9
Course administration	6	19.4	25	80.6
Funds	6	19.4	25	80.6
Technology issues	6	19.4	25	80.6
Other	5	16.1	26	83.9

Note: Missing cases=5. Percentages were calculated on valid cases.

The main factors that contributed to non-users' decisions about adopting web-based teaching were their conceptions of teaching and the quality of learning and teaching. Also important were issues relating to their own skills, personal motivation, training and staff development, and work issues.

This group did not often mention the issue of University decision-making.

'Other' issues also brought up work issues, namely concerns about not having enough time to learn to use web-based teaching or to set it up (n=3) and concerns about student access (n=2).

Respondents who had not used web-based teaching tools were about equally spread in their valuing of web teaching tools (see question 11): 43.3 per cent of them valued these tools to less than a moderate extent, and 36.7 per cent valued them to more than a moderate extent. This, and their concerns about quality issues, suggest the first of the following recommendations.

Recommendations

- 14.1 Provide ready access to evidence of the benefits that web-based teaching can provide to teachers and learners, especially to those who have not used web-based teaching.
- 14.2 Offer staff development and training to allay concerns about the skills required.

Question 15: Please elaborate on the above [questions 13 and 14], or other factors, in relation to your decision about adopting web-based teaching

Question 15 was an open-ended question asking respondents to elaborate on their responses to questions 13 and 14. (Question 13 asked respondents whether they would like to use web-based teaching tools and question 14 asked them to comment on 12 given factors that might have affected their decision.)

Some respondents who had used web-based teaching tools also answered this question, addressing it in relation to their using web-based teaching to a greater extent or differently. These responses were not excluded from the analysis. It was considered that they added to the richness of the qualitative data.

Up to three comments were coded for each respondent. Responses beyond this number were not coded, but were included in the comments recorded.

In all, 60 respondents (38 per cent of all respondents) answered this question, giving 101 coded responses. The initial categories determined during coding (see appendix 4) were

collapsed into more general categories. Table 15.1 shows the frequency distribution of the 101 responses across the general categories.

Table 15.1 Elaboration of factors affecting respondents' decision about adopting web-based teaching

Comment category	Frequency	Per cent
Time / workload	25	24.8
Skills / knowledge	7	6.9
Training / staff development	9	8.9
Support	3	3.0
Policy / management support	2	2.0
Tools/ wbt system	11	1.0
Infrastructure	3	3.0
Quality / benefits / outcomes concerns	11	10.9
Some courses / aspects of courses	12	11.9
Negative perceptions of web based teaching	8	7.9
Students [including 4 relating to infrastructure]	7	6.9
Not own decision	1	1.0
Positive perceptions of web based learning	3	3.0
Benefits for students	3	3.0
Other	6	5.9
Total	101	100.0100.1

The largest number of responses in a single category concerned the perceived extra time or work required for web-based teaching (n=25), a category that was not available in the previous question, question 14. Concerns about the need for more skills and knowledge (n=7) were also common, and were also important in question 14. In total there were 32 comments that related to staff members' personal concerns about their own work or knowledge.

A large number of comments (n=32) also indicated concern about the level of support provided by the University for web-based teaching: concerns about infrastructure or the tools provided for web-based teaching (n=18, including 4 comments concerning access to infrastructure by students); the need for training and staff development (n=9); and management or other support (n=5).

There was also considerable concern about the quality of learning outcomes from web-based teaching: this was evident in 31 comments, which related directly to quality of learning outcomes (n=11), which expressed opinions about the suitability of web-based teaching for some aspects of courses (n=12), or which expressed negative perceptions about web-based teaching as a whole (n=8). This concern was also strongly expressed in question 14.

Thus, according to their comments, this group of respondents were equally concerned about their own workload and skills/knowledge, support factors, and quality of teaching and learning in relation to the use of web teaching tools.

Table 15.2 presents a selection of the respondents' comments transcribed from the questionnaires, together with their school or department. The comments are grouped under the broad categories into which the initial categories were collected. The category chosen represents the main emphasis of the comment. Where such emphasis was not clear, the comment is identified as a mixed-category response.

Table 15.2 Respondents' comments on factors relating to their decisions about adopting web-based teaching, identified by school or department

School/department	Comments
Time and/or workload	
Electrical & Electronic Engineering	Time pressures make it very difficult to be able to: (a) acquire the necessary skills to do a good job (b) invest the extra time needed to prepare good quality materials
Earth & Environmental Sciences	An investment in time is needed to master the skill required. My SELT results are excellent and so I tend to regard w-b teaching as desirable but not essential.
Agriculture & Wine	I have not made use of MyUni as my experiences from attending a training course was that it required excessive inputs of time to redevelop teaching materials into its format.
Graduate School of Management	Delivering materials / courses online takes a lot more time for the facilitator. My experience has been that institutions see web-based learning as a cost reduction strategy. It actually costs more – materials have to be of higher quality, it takes more facilitation time and requires more frequent updating.
Mechanical Engineering	I think I could make good use of MyUni in my teaching but I would need to be free to put my time and energy into learning how to use it and <u>then</u> re-conceptualising my curriculum to make it effective in MyUni.
Architecture	It takes a lot of time to set up quality learning experiences on the web. Currently no funding is available to enable this.
Wilto Yerlo/CASM	I would need training & support to get going <u>AND MOST IMPORTANTLY INPUT OF SIGNIFICANT TIME & EFFORT TO ADAPT COURSES TO WEB</u> . I am on <u>overload</u> as it is!!
Skills and/or knowledge	
Public Health	I see potential for expansion of teaching possibilities but have no idea on how to approach it – Black box!
Support needed	
Electrical & Electronic Engineering	I need IT and admin support because web-based teaching can be more resource intensive.
Tools and/or the system	
–	Please enable lecturers to use other languages than English (e.g. Chinese, Japanese) on MyUni for our teaching!
Infrastructure	
Agriculture & Wine	...MyUni login + attributes seemed to change regularly, merging courses part way through semester. I think ... taking enrolments in dribs & drabs, class lists aren't up to date early enough.
Quality / benefits / outcomes concerns	
Agriculture & Wine	It is still cheaper & more effective to photocopy notes than laser print pages & pages.
Public Health	I am interested in using web-based teaching both for internal and external students – but only where this will enhance the quality of learning and teaching – this is the crux.
Graduate School of Management	My experience of web-based learning (I have delivered courses using web-based platforms and also participated in a course) is that the quality of the learning experience is much lower than class-room based learning and takes much more discipline from the student.
Students (including access)	
Social Sciences	Equity. External + remote student access would need to be assured as would (low) cost transfer to students.
Applied Mathematics	I would like to use MyUni. However, there is no guarantee that all the students enrolled on the subject or attending the lectures and not enrolled as in hons applied maths, have access to MyUni. Therefore, I choose not to use it.
Suitability of some aspects of courses	
Agriculture & Wine	I am opposed to the concept of total web-based teaching. A mix of personal contact + web-based, the latter particularly for administration, is the desired outcome.
Commerce	I'm happy to use it to support face-to-face teaching but not as the primary mode.
Earth & Environmental	I teach relatively small, level 3 subjects and for these personal contact and practical

Sciences	(laboratory) classes are critical. I do use email extensively for communication between campuses.
Molecular & Biomedical Science	Web based teaching should only be used in areas where direct contact with students is not necessary; eg, posting lecture notes, tutorial (which should be followed up with direct contact if learning problems are encountered) & exam preparation/revision.
Perceptions of web-based teaching	
Agriculture & Wine	Web-based teaching needs to be simple & effective & not cumbersome & confusing for the student.
CESGL	MyUni is a cause of irritation to students and staff. It keeps students off campus and has the value of fast food.
Agriculture & Wine	I do not believe in web-based teaching. Things do not have to be done simply because they can be done. Nothing can replace the direct contact between teachers and students. During the past 20 years many things have been fashionable for a while. Nevertheless, the willingness to learn is rather induced in students by the teacher's model and his/her enthusiasm.
Dental School	I teach human beings (students) to help other human beings (patients). There is a minimal role & indeed a major negative in usage of IT in this arena.
Mixed-category responses	
Agriculture & Wine	At the end of the day work loads and University policy will dictate how much of each will be expected. [workload, policy]
Mechanical Engineering	I think motivation and interest comes first. Provision of training and support is also very important. I think quality of T & L can be preserved by smoothing the admin of a course for both students and teachers. [attitude, training, support]
Dental School	Work load, lack of facilities, etc often make it TOO HARD for academics to work at their highest potential. [workload, infrastructure]
Molecular & Biomedical Science	Policies change so rapidly that the input needed in personal time is not necessarily valuable use of time. [policies, time]
Anthropology	I need time and training to more effectively utilise these tools. [time, training]
Law	Obviously the quality of any web-based tool depends on the skills of the teacher & the level of training & exposure they have had previously. Basic training & exposure is one thing, but this needs to be an ongoing thing. [skills, training]

Recommendations

- 15.1 Provide support and resources (such as time release, more flexibly offered staff development activities) to facilitate staff having the time to learn new skills and to incorporate web teaching into their normal teaching cycle.
- 15.2 Develop a staff development and support approach that accommodates the different needs of staff at different levels of adoption of web-supported teaching.
- 15.3 Focus some staff development and awareness raising activities on demonstrating the benefits web-supported teaching can provide for quality of learning outcomes and other aspects of teaching and learning, focussed particularly towards non-users of web-supported teaching.

Question 16: What needs to change so that you would use web teaching tools?

As for question 15, some respondents who had used web-based teaching tools also answered this open-ended question, and their responses were included. Therefore the question relates to what needed to change so that respondents would use web teaching tools or use them more or differently.

For each respondent, up to three comments were coded. For this question 58 respondents (37 per cent of all respondents) answered, giving 98 coded responses. The initial categories (see appendix 4) were again collapsed into more general categories. Table 16.1 shows the frequency distribution of the 98 responses across the general categories.

Table 16.1 Factors respondents would like changed so that they would use web teaching tools or use them more or differently

Comment category	Frequency	Per cent
Time / workload	25	25.5
Skills/ knowledge	5	5.1
Training/staff development	15	15.3
Support	10	10.2
Policy / management support (includes \$)	5	5.1
Tools/ wbt system	7	7.1
Infrastructure	2	2.0
Quality / benefits / outcomes concerns	10	10.2
Negative perceptions of web based teaching	4	4.1
Students [including 6 relating to infrastructure]	10	10.2
Copyright	2	2.0
Not own decision	1	1.0
No change needed	1	1.0
Don't know	1	1.0
Total	98	100.0

The number of comments about the need for more time and/or a lower workload to be able to accommodate the work involved in web-based teaching (n=25) was the same as for question 15, and there was a similar number relating to skills and knowledge (n=5). However, the need for training and/or staff development was considered more often (n=15) when respondents were asked to think of changes needed than when they were asked about decision factors.

Comments about the need for changes in the support provided by the University were also more common (n=45) than concerns about support in the previous question. Changes suggested were equally spread across concerns about infrastructure or the tools provided for web-based teaching (n=15, including six comments concerning access to infrastructure by students); the need for training /staff development (n=15); and the need for changes in management or other support (n=15).

Concerns about the quality of web-based learning (n=14) were not as evident as in the comments about decision factors.

Two comments were made about the new copyright regulations, and their impact on how and to what extent respondents would use web teaching tools.

Thus, when respondents were asked specifically about changes needed so that they would use web teaching tools or use them more or differently, they seemed to focus mainly on support factors that the institution could provide: training and staff development, policy and management support, tools and the web-based system and infrastructure.

Table 16.2 presents a selection of the responses concerning what needed to change so that respondents would use web teaching tools, transcribed from the questionnaires. The comments are grouped under the broad categories into which the initial categories were collected. The category chosen represents the main emphasis of the comment. Where such emphasis was not clear, the comment is identified as a mixed-category response.

Table 16.2 Respondents' comments about what needed to change so that they would use web teaching tools, or use them more or differently

School/department	Comment
Time / workload	
Agriculture & Wine	It needs to be presented in a better manner which requires far less investment of staff & student time to achieve gains.
Mechanical Engineering	Release for a period of time from my relentless duties (maybe 3-4 days).
Earth & Environmental Sciences	They take time that I don't feel I have ie. too much.
Public Health	I need to know ... how much <u>time</u> is involved?
Dental School	More hours in a day please.
Animal Science	Need someone to assist me or my teaching load reduced so the tools can be developed.
Training / staff development	
–	Sensitivity in scheduling IT training.
Molecular & Biomedical Science	Staff training in setting up & using web teaching tools. An increase in my own involvement in teaching – currently I am only responsible for 2nd year prac demonstration.
Support	
Public Health	Define a need & then [provide] help in the task.
Wilton Yerlo/CASM	Staff resources need to be made available (ie existing staff overloaded therefore no time left for important developments such as this)
CESGL	Support of department.
Molecular & Biomedical Science	Assistance <u>in</u> departments.
CESGL	Competent IT organisation which is neither condescending nor proselytising and that SAVES time rather than wastes it.
Policy / management support (includes \$)	
CESGL	It eats up money. There are better ways to spend the little we have.
Architecture	Funding, support for development of teaching material.
–	Consultation with teaching staff before investment in software is made.
Tools / wbt system	
Clinical Nursing	The frustrating nature of the repetitive tasks of the MyUni system. The small reading windows.
Infrastructure	
CESGL	Accessibility of enough computers & time to students (and staff!).
Applied Mathematics	I would insist on having a better system for making sure all students who need to, can get access to MyUni (or whatever web-based tool is available). It takes too long to get students enrolled through Peoplesoft, and without enrolment, no access seems to be possible.
Agriculture & Wine	Faster upgrades of students in short courses to the class list. 4 days is far too long for a 10 day course.
Earth & Environmental Sciences	A reliance solely on IT causes problems when servers go down, electricity is absent etc.
Quality / benefits / outcomes concerns	
Earth & Environmental Sciences	I need to be convinced that they contribute a real advance. So far no one has done this.
Public Health	I need to know what is available, how they will improve my teaching methods, & most importantly, how students will respond.
Agriculture & Wine	I would need to see a real advantage or improvement in web-based teaching. This is not the case yet. However, I would of course use it if the University believes that it is required.

Electrical & Electronic Engineering	It would need to become a higher priority than all other things we are expected to do, or produce significant benefits over existing methods.
Students (including access)	
Public Health	The University's capacity to provide <u>immediate</u> online access to <u>summer</u> students. Currently, students can experience quite a delay in obtaining passwords, etc.
Earth & Environmental Sciences	Students don't all use them.
Animal Science	...what would help greatly is to allow TAFE colleagues + students to access MyUni. At present TAFE / Uni teaching has to use WebCT based at TAFE.
Perceptions of web-based teaching	
Graduate School of Management	Nothing: In time many of the web-based learning initiatives currently underway will end up like the dot-coms of 2–3 years ago – failures.
Mixed-category responses	
Wilton Yerlo/CASM	\$ issues – re staffing levels. Academic staff need more admin support in my area, & release time / staffing for development, research etc. [support & time]
Geographical & Environmental Studies	More time and some in-house computing support. [time & support]
Mechanical Engineering	I am satisfied with training and support so far and provided that I could get any further training and support that I might need as I use MyUni more, I would not need any changes. [training & support]
Dental School	I need more IT training and more time available to use web teaching. [training & support]
Law	Ongoing training based in schools / departments in order to facilitate the maintenance and further development of such tools. [training & tool development]

Recommendations

- 16.1 Investigate ways in which teaching staff can access more fully the support provided by the University for the development of web-supported teaching, especially in relation to staff development/training.
- 16.2 Raise awareness among department and faculty managers about the benefits of web-supported teaching, especially using MyUni, and develop strategies to foster their support for their staff using these tools.
- 16.3 Continue to improve infrastructure and its maintenance, and access to it for different types of students (for example, summer course students, 'distance' students, students on regional campuses) and teachers (for example, guest lecturers).

Summary, section B

Section B revealed among respondents who had not used web-based teaching tools a general desire to do so, and some of the barriers to their adoption of these tools. It also revealed some barriers to further use among respondents who had used web-based tools. Prominent issues included:

- concerns about the quality of teaching and learning using web-based tools
- concerns about lack of skills and knowledge
- the need for staff development and training
- pressures of work inhibiting use of web tools
- the need for support from managers

The existence of these concerns among respondents does not imply that the means for their resolution does not exist within the University. It does suggest that respondents are not

accessing available support for web-based teaching to an extent that meets their needs, and therefore that access to support could be improved. There may also be a need to modify, extend and focus the support provided.

Section C: For respondents who had used web-based teaching tools

The responses to the fixed-category questions in section C were analysed for respondents who had used web-based teaching; that is, those who had answered 2 or higher to question 8, ‘To what extent have you ever used web-based teaching?’ (n=120). The open-ended questions were considered for all respondents who made comments.

Question 17: Have you:

- Adopted web teaching tools but not MyUni
- Adopted MyUni
- Tried and stopped using web teaching tools
- Tried and stopped using MyUni
- Other (please specify)

Respondents were asked about the pattern of their use of web-based teaching tools from the items listed above (table 17.1). The items were binary, and respondents could select any number from the list. A separate variable was created for each item. To give mutually exclusive categories for the first four items, crosstabulations were performed. For respondents who had responded to more than one of these items, one response was selected, based on the logic of the questions. Thus the first four items were mutually exclusive.

Table 17.1 Respondents’ pattern of use of web-based teaching tools

Pattern of tool use	Yes	Per cent	No	Per cent
1. Adopted MyUni	98	85.2	17	14.8
2. Tried and stopped using MyUni	7	6.1	108	93.9
3. Adopted web teaching tools but not MyUni	6	5.2	109	94.8
4. Tried and stopped using web teaching tools	5	4.3	110	95.7
5. Other	13	11.4	102	88.7

Note: missing cases = 5.

By far the majority of respondents who had used web-teaching tools (85.2 per cent) had used MyUni, with a further 6 per cent having tried and stopped using MyUni. Seventeen respondents (including 11 who specified that they had used other learning management systems) (12.6 per cent) had adopted tools other than MyUni.

Other specified uses included other University of Adelaide systems or respondents’ own web pages (n=8), and learning management systems at other universities in South Australia (n=3).

Respondents who had tried and stopped using MyUni or other web-teaching tools numbered 12 (10.4 per cent).

Thus, while MyUni was used by most (85 per cent) of this group of online teaching practitioners, there were 15 per cent were not using it, having stopped or preferring other systems.

Recommendations

17.1 Employ strategies to demonstrate the benefits of using MyUni to teaching staff and departments / schools that use other systems.

17.2 Support the integration of other web teaching tools with MyUni.

Question 18: Where have you used web teaching tools?

This question had two binary items, and called for one or two responses.

Table 18.1 Institution of web teaching tool use

	Frequency	Per cent
The University of Adelaide	112	97.4
Other	16	13.9

Note: missing cases = 5.

Most user respondents had used web teaching tools only at the University of Adelaide. Considering that two-thirds of respondents had been at the University for more than 10 years, (table 3.2) this is to be expected. Other specified institutions in which staff had used web teaching tools comprised South Australian tertiary institutions (n=6), tertiary institutions in other states or overseas (n=4) and other organisations (for example, TAFE) (n=4).

Question 19: When have you used web teaching tools? (tick one or more boxes)

This question was presented as a series of choices from 1995 to 2002, and respondents could tick as many as were relevant. Data were transformed to give a scale of length of use of web teaching tools. Table 19.1 and figure 19.1 show the findings. Note, the years in brackets in table 19.1 are indicative of the year users began using web-teaching tools since almost all respondents marked every box after the first year, and thus had continued to use them once they had started.

Table 19.1 Number of years web teaching tools had been used, and year use started

Years of use (used since)	Frequency	Per cent
1 (2002)	36	31.6
2 (2001)	18	15.8
3 (2000)	26	22.8
4 (1999)	17	14.9
5 (1998)	6	5.3
6 (1997)	4	3.5
7 (1996)	3	2.6
8 (1995)	4	3.5
Total	114	100.0

Notes: missing cases = 6.

mean = 2.85; SD = 1.84; kurtosis = 0.695.

The years in brackets indicate the year users began using web-teaching tools.

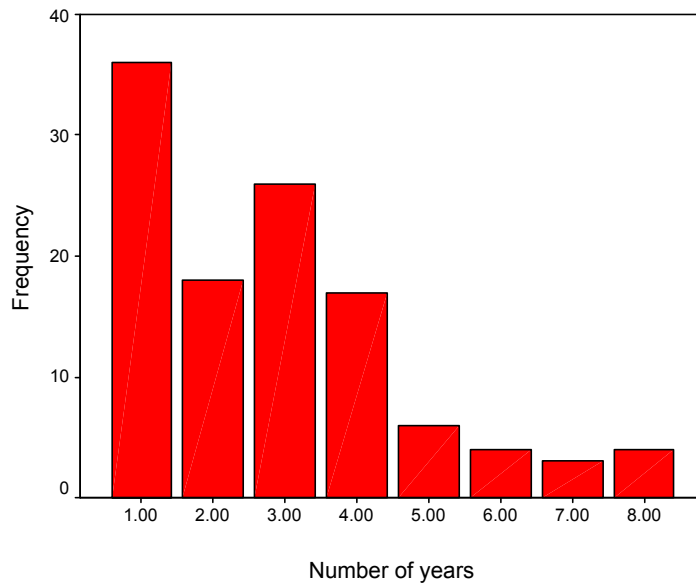


Figure 19.1 Number of years respondents had used web teaching tools

The majority of users of web teaching tools had been using them for only one year (before 2003), in line with their stated use of MyUni, since for most respondents MyUni had become available only in 2002. The mean length of use was 2.85 years.

Question 20: Which web teaching tools have you used?

- MyUni
- Adelaide University Online
- Own web pages
- Department provided system
- Faculty provided system
- Other (please specify)

Question 20 sought to elicit the type/s of web teaching tools respondents had used or were using. From a choice of six binary options they could select any number.

Table 20.1 Web teaching tools that had been or were being used by respondents

Tool used	Yes	Per cent
MyUni	104	86.7
Adelaide University Online	53	46.1
Own web pages	31	25.8
Department provided system	25	21.7
Faculty provided system	12	10.4
Other	19	16.5

Note: missing cases =5.

The majority of respondents had used MyUni, but many had also used other tools – close to half had used Adelaide University Online, and near one quarter had used their own or a department provided system. ‘Other’ specified tools used included other University of Adelaide tools (n=3) and tools from other South Australian universities (n=4). These figures tend to suggest that many of the respondents who were MyUni users were early adopters who had developed competence and confidence with other web-based teaching tools.

The high level of use of tools other than MyUni was investigated further by calculating the number of tools respondents had used. This is illustrated in table 20.2 and figure 20.1.

Table 20.2 Number of web teaching tools used by respondents

No. of tools used	Frequency	Per cent
1	40	35.1
2	43	37.7
3	23	20.2
4	7	6.1
5	1	0.9
Total	114	100.0

Note: missing cases = 6
 Mean = 2.00; SD = 0.94; kurtosis = -0.031

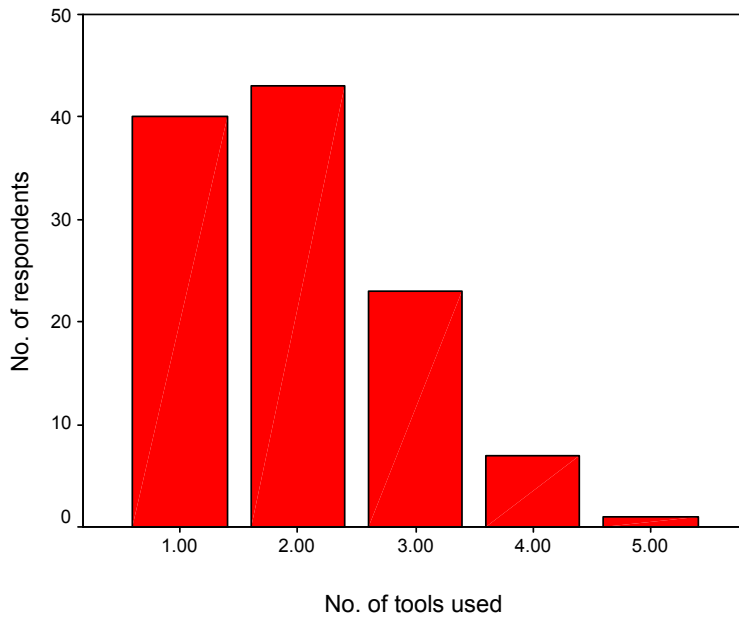


Figure 20.1 Number of web teaching tools used by respondents

Almost two-thirds of respondents who had used web teaching tools at all had used more than one. The mean number of tools used was 2.0. This again suggests that the subsample of respondents who had used web teaching tools were early adopters who had moved on to or added MyUni to their web teaching tools.

Recommendation

20.1 Employ strategies to attract teaching staff who have never used web-supported teaching, and provide appropriate staff development, training and other support. The type and levels support needed may be different from those which attracted early adopters.

Question 21: For which teaching activities have you used web teaching tools?

- Announcements
- Communication
- Content delivery – lecture handouts
- Content delivery – whole lectures or topics
- Administration of course
- Groups management
- Other (please specify)

Respondents who had used web teaching tools were asked to indicate for which of a list of eight activities they had used them. The items were binary and respondents could indicate their use for each activity (table 21.1).

Table 21.1 Teaching activities for which respondents had used web teaching tools

Teaching activity	Frequency	Per cent
Announcements	95	83.3
Communication	93	81.6
Content delivery – lecture handouts	95	83.3
Content delivery – whole lectures or topics	61	53.5
Administration of course	53	46.5
Assessment management	36	31.6
Groups management	28	24.6
Other	23	20.4

Note: n=120; missing cases = 6.

The most common uses of web teaching tools were communication (including announcements) and delivering course content. Administration of the course and managing aspects of student learning had been used by less than half of the respondents.

Up to two choices for ‘other’ uses were coded. Other uses included discussion groups and tutorials (n=12), and interactivity and multimedia (n=3).

Thus, while the respondents who had used web teaching tools tended to be early adopters, they had also not commonly extended their use of web teaching tools to the more interactive, complex uses of these tools.

Recommendations

- 21.1 Promote and make more readily available/accessible staff development in using the interactive features of web teaching tools to facilitate student learning.
- 21.2 Focus some staff development on using the features of MyUni for course administration and management to gain efficiencies, and provide a variety opportunities for staff to access this.

The number of features of web teaching tools used by respondents was also calculated (table 21.2 and figure 21.1).

Table 21.2 Number of features of web teaching tools respondents had used

Number of features used	Frequency	Per cent
1	4	3.5
2	12	10.5
3	24	21.1
4	27	23.7
5	25	21.9
6	9	7.9
7	7	6.1
8	6	5.3
Total	114	100.0

Note: Missing cases = 6.
Mean = 4.24; SD = 1.69; kurtosis = -0.198.

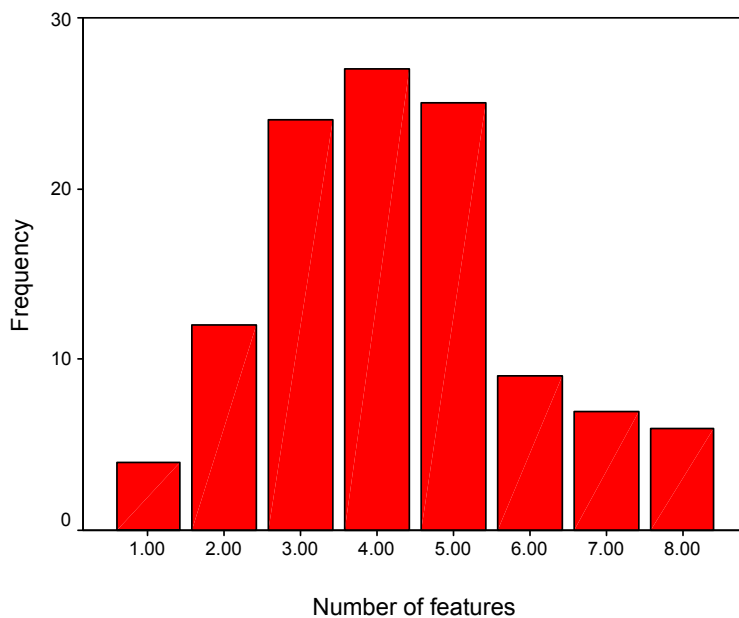


Figure 21.1 Number of features of web teaching tools used by respondents

The mean number of uses of web teaching tools among respondents who had used them at all was 4.25. It needs to be borne in mind that four of the eight possible categories were what can be termed less advanced uses: content delivery and communication.

Recommendation

21.3 Provide training, staff development and support for more advanced uses of web teaching tools, particularly in MyUni, and focused particularly on the pedagogical aspects of these uses.

Question 22: Which students have you taught using the web?

Respondents could choose up to three categories for this question.

Table 22.1 Type of students taught using web teaching tools

	Frequency	Per cent
Undergraduate coursework	107	95.5
Postgraduate coursework	26	23.2
Other	5	4.2

Note: missing cases = 8.

Almost all respondents who had used web teaching tools had taught undergraduate courses using the web and not quite a quarter had used the web to teach postgraduate courses.

A simple crosstabulation was calculated to determine the extent to which staff who had used web teaching tools had used them in their overall teaching of undergraduate and postgraduate courses. All (100 per cent) of the respondents who had used web teaching tools *and* taught undergraduate courses, had used these tools in their undergraduate teaching. Among respondents who had used web teaching tools *and* taught postgraduate courses, only half of them (51 per cent) had used these tools to teach their postgraduate courses.

Recommendations

- 22.1 To optimise benefit for undergraduate students, focus some staff development activities on embedding web-supported teaching into undergraduate courses and the curriculum and on extending the use of web tools by undergraduate teachers.
- 22.2 Explore means of increasing the use of web-supported postgraduate teaching where appropriate to enrolment profiles and numbers, and to programs.

Question 23: What are or were your reasons for using web teaching tools? (record key words or phrases)

This was an open-ended question. For each respondent, up to three reasons were coded. 112 respondents (71.8 per cent of all respondents) gave reasons for using such tools, giving a total of 231 coded responses in the database. The initial categories (see appendix 4) were collapsed into more general categories. Table 23.1 shows the frequency distribution of the 231 responses across the general categories.

Table 23.1 Reasons for using web teaching tools

Comment category	Frequency	Per cent
Time / workload / efficiency / convenience benefit	125	54.1
Training/ staff development	1	0.4
Skills / knowledge / experience of using	6	2.6
Reasons outside own decision	31	13.4
Quality: positive	1	0.4
Student benefits	35	15.2
Particular function / feature	14	6.1
Particular student types / modes / discipline	12	5.2
Other	6	2.6
Total	231	100.0

By far the largest number of responses about reasons for using web teaching tools involved the perceived efficiencies or convenience of using such tools (n=125), which in most instances could be linked to saving time and/or work. This category accounted for 54 per cent of the responses to the question, and contrasts strongly with the 25 per cent of responses to questions 15 and 16 (mostly from non-users of web teaching tools) that expressed concern about the extra time and/or work involved in adopting web teaching tools.

Many of the reasons given for using web teaching tools indicate that respondents believed that their students benefited (n=35), similar to the *number* of responses to questions 15 and 16 that expressed concern about quality of teaching and learning or benefits for students (n=31), but a marked contrast in the perception of the benefits of web-supported teaching for students. It may be that respondents perceived that students benefited in some ways from web-supported

teaching, while at the same time having concerns about quality of learning or benefits and other outcomes. This is explored later in the report.

The qualitative data on reasons for using or not using web-supported teaching reveal that respondents had complex reasons, but also that those who had used such tools tended to appreciate the benefits for themselves and their students, whereas those who had not used them found concerns about these matters to be barriers to adoption.

There was also a sizable number of responses indicating that some respondents had adopted web tools for reasons they had no control over: it was not their decision (n=31).

Table 23.2 presents a selection of the open-ended responses, transcribed from the questionnaires, and ordered where possible into the general categories.

Table 23.2 Respondents' comments about reasons for using web teaching tools

School/department	Comment
Time / workload / efficiency / convenience	
General Practice	...to ensure communication with students at any time of day or week.
Horticulture, Viticulture & Oenology	Can prepare material early. Great organisation tool.
Civil & Environmental Engineering	Minimise paper handouts.
Pathology	Mainly for provision of handouts, assignments and answers to save on photocopying costs and time.
European Studies	I also thought MyUni would make it easier for the lecturer to communicate important information to students.
Humanities	Saving paper. Reliable communication in another medium (outside tutorials).
Earth & Environmental Sciences	To ensure contact with all students in a course including those who don't turn up.
Pathology	Less work for us printing & photocopying hundreds of handouts. Great method for giving announcements & notification of course alterations, posting assignments etc. Made our lives much easier!
Molecular & Biomedical Science	Opportunity to deliver lecture handouts prior to lectures.
Social Sciences	Management of too big class size.
Earth & Environmental Sciences	Web based quizzes take little time to mark. Students can be reached via the internet & email independent of work hours.
Geology & Geophysics	Easy to use class e-mail.
Chemical Engineering	2-way communication with students esp. since spend little time on campus. Accessibility [of staff member] to students.
Anthropology	Makes distribution of information to students + communication between lecturers and students more efficient.
Law	Easy to deliver / connect to most up to date materials – great range of [course name] materials available on line. Instant communication with whole class.
–	Financial / timetabling expediency. Adelaide Uni Online was static, awkward to use & merely reproduced paper based one way communication.
Mechanical Engineering	I used MyUni last year [2002, for the first time] and found it a very effective way of communicating with students, handling assignments without the problems of paperwork – i.e. makes it much easier to keep everything in control.
ECIC	Extra point of contact with students. Flexibility. Expanded source of materials, in real time.

Graduate School of Business	Effective way of keeping in touch with students during the semester, between lectures, and managing tutorial teams.
Training / staff development	
Architecture	Staff development – attended MyUni training.
Reasons outside own decision	
Earth & Environmental Sciences	They were available and students expected to have material provided in this way.
Pure Mathematics	Political reasons – university management thinks it is a good tool, so we use it.
European Studies	There was an expectation on behalf of students to find information on MyUni.
Social Sciences	Access pressure from students in paid employment. No choice but to adopt (MyUni).
Architecture	Previous course delivery & administration utilised web teaching tools [Adelaide University Online]. Favourable response from students.
Earth & Environmental Sciences	Because deep down I know it is the way things will go!
Law	Students are familiar with it.
Psychology	It has become an expectation – both by students and HoD.
Graduate School of Management	It was being marketed by the University as a 'friendly' new way to deliver courses and was a specific feature of the course I was teaching.
Social Sciences	Pressure to provide courses flexibly.
Student benefits	
Horticulture, Viticulture & Oenology	Puts onus on students to access materials.
Earth & Environmental Sciences	We believed they would: 1) Give students useful experience of the teaching mode 2) Facilitate out of session discussion amongst students based on 3 different campuses
Civil & Environmental Engineering	Reducing amount of tedium [for students] in copying down info during lectures.
Humanities	I can see who is using it and when. Can post additional materials not suitable for lectures.
Animal Science	Increased student confidence, especially if discussion groups are used.
Earth & Environmental Sciences	Making the student more comfortable using computers. Students can do tasks independent of timetable.
Chemical Engineering	Ready access to course materials.
Anthropology	Same information available to everyone.
–	Encourage students to integrate computer use into tertiary study.
ECIC	Key skill for students!
Clinical Nursing	Equity of access.
A particular function or feature	
Geology & Geophysics	Posting of all lecture, lab, + quiz material. Delivery of data sets. Drop box facility for assignments.
Chemical Engineering	Assignment work – questions & answers.
Pure Mathematics	Convenient for announcements. Back up copier of handouts. Gradebook in MyUni convenient for feedback of assessment results.
Molecular & Biomedical Science	Ability to provide students with assignments outside or after tutorials, and to provide feedback. Attempt to start on-line discussions.
Particular student type / mode / discipline	
Clinical Nursing	As an adjunct to classroom learning.
Electrical & Electronic	Up to date info in fast moving field (telecoms).

Engineering	Entirely consistent with [discipline] content.
Animal Science	Flexibility – especially with more students working part-time ... remote access.
Social Sciences	Pressure to do so (external courses).
Social Sciences	Providing for external students to complete their degree when Uni funds for external studies were curtailed.
Animal Science	Attract external students.
Clinical Nursing	Distance education.
Linguistics	Course is [name of course] – heavy IT & internet focus.
Mixed-category responses	
Mechanical Engineering	Saves time in long term. Forces good organisation habits. Facilitates communication with students. Supplements lecture material. Facilitates online discussions. [time / efficiency, particular feature, supplementary mode]
Law	We are required to; promotes flexibility and efficiency of certain information; supports the teaching delivered in lectures and seminars. [Not own decision, efficiency, supplementary]

Question 24: If relevant (relates to question 17), why have you used web teaching tools but not MyUni, tried and stopped using web teaching tools, or tried and stopped using MyUni?

The responses to this question were analysed for three groups:

- Respondents who had adopted web teaching tools but not MyUni (n=8)
This group gave the following reasons:
 - MyUni was not available at the time, or they did not know about it (n=4):
[the web teaching tools used] allow better accessibility for students to instructor who is not resident on campus.
MyUni not available at the time – don't have time to transfer from own web to MyUni [Now] use MyUni for general communication to classes.
 - They came from a different tertiary institution (n=3).
 - Their school or department had its own system (n=2).
 - There was not enough staff development in using MyUni (n=1):
Not enough courses on all the tools – many 'intro' but no or few courses that illustrate how the tools can be used [in teaching].
- Respondents who had tried and stopped using web teaching tools (n=6)
Four of these respondents gave reasons:
 - They tried web-based teaching but found it not effective or 'no good' (n=2):
MyUni adds no value to student learning. It has not reduced the demand for printed handouts. Real learning comes from personal contact. Scrap MyUni & use the money saved for more tutors.
 - MyUni was not available at the time (n=1).
 - Web-based teaching takes too much time (n=1).
- Respondents who had tried and stopped using MyUni (n=8)
Six of these respondents gave reasons:
 - MyUni is not effective (n=2).
 - Lack of training (n=1).
 - Feelings of loss of control (n=1):

I don't find MyUni as easy to use as my own web site. I don't like the loss of control and having to fit into someone else's idea of what I should be doing.

- Tried online assessment using MyUni and stopped (n=1).
- Copyright concerns (n=1).

Although the numbers responding to this question were small their responses express concerns similar to those expressed in other questions.

Summary, section C

The respondents who had used web teaching tools taught undergraduate courses, and by and large had used MyUni, but other tools were also important. The group appeared to be early adopters of web-supported teaching, but their use tended to be for communication and content delivery. There appeared to be lower use of the more interactive, advanced uses of these tools.

In their comments respondents showed an appreciation of the time / workload and efficiency benefits that can be achieved for themselves using web teaching tools. Their comments also indicated that many respondents were aware of student benefits, although they had also previously expressed concerns about learning outcomes and other student benefits. An interesting subgroup felt they had used web teaching through reasons outside their own control.

Section D: Learning outcomes and values

Section D of the questionnaire concerned respondents' views and experiences of learning outcomes and values that related to the use of web-based teaching. It focused on the respondents' perceptions of the impact of web-based teaching on their students, and canvassed their views on some equity and access issues.

The responses to the fixed-category questions in section D were analysed for respondents who had used web-based teaching; that is, those who had answered 2 or higher to question 8, 'To what extent have you ever used web-based teaching?' (n=120). The open-ended questions were considered for all respondents who made comments.

Question 25: Has web-based teaching benefited your students?

Respondents who had used web-based teaching were asked whether this use had benefited their students overall.

Table 25.1 Respondents' view on whether web-based teaching had benefited their students

	Frequency	Per cent
Yes	75	66.4
No	8	7.1
Don't know	30	26.5
Total	113	100.0

Note: missing cases = 7.

Some two-thirds of respondents who had used web-based teaching considered that it had benefited their students. However, more than one-quarter did not know whether web-based teaching had benefited their students, and 7 per cent considered that it had not done so.

To investigate these groups further, a crosstabulation was performed of length of time respondents had used web teaching tools by the perception of benefit to students.

Table 25.2 Respondents' perception of whether students had benefited by length of use of web teaching tools

Benefit to students	1 year or less		2-3 years		4 years or longer	
	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
Yes	22	62.9	26	59.1	27	79.4
No	3	8.6	5	11.4	0	0.0
Don't know	10	28.6	13	29.5	7	20.6
Total	35	100.1	44	100.0	34	100.0

Note: missing cases = 7. The differences were not significant:

Although the differences were not significant, respondents who had used web teaching tools for less than four years were less likely than respondents who had used them for four years or longer to consider that their students had benefited or to be uncertain of any benefit.

Thus there is an indication among the respondents that the more experience they had of web teaching the more likely they were to consider that their students had benefited.

Recommendations

- 25.1 Promote the use of evaluation (SELTS) and seeking feedback from students about their learning experiences with web-based teaching.
- 25.2 Increase awareness of the potential benefits for students of web-supported teaching among teachers (through staff development, and existing support resources such as the

Online Learning & Teaching section of the LTDU website). Such a program might highlight the experiences of teaching staff more experienced in web-supported teaching.

25.3 Extend the reach of staff development in relation to the benefits of web-supported teaching for students.

Questions 26–40: Rate the impact of web-based teaching on your students’:

- | | |
|--|--|
| 1. Attendance | 8. Time management |
| 2. Summative grades | 9. Independent learning |
| 3. Continuance in course | 10. IT skills |
| 4. Continuance in program | 11. Critical thinking & problem-solving skills |
| 5. Use of self-directed formative assessment | 12. Lifelong learning orientation |
| 6. Communication skills | 13. Enjoyment while learning |
| 7. Collaboration and working in groups | 14. Discipline area knowledge |
| | 15. Education linking with future & current employment |

Respondents who had used web-based teaching were asked to rate the impact on their students of a set of 15 items, ranked on 7-point Likert scales from 1, very decreased, to 7, very increased. The frequencies for each item are shown in table 26.1 (see next page).

The means and standard deviations for each item were calculated from the 7-point Likert scales (table 26.2). The respondents who responded ‘Don’t know’ to items were excluded.

Table 26.2 Means and standard deviations of teachers’ perceptions of impacts of web-based teaching on student outcomes

Impact item	Mean	Standard deviation	Kurtosis
1. Attendance (n=78)	3.91	1.071	0.838
2. Summative grades (n=65)	4.43	.829	1.394
3. Continuance in course (n=72)	4.42	1.004	0.844
4. Continuance in program (n=66)	4.23	0.873	2.506
5. Use of self-directed formative assessment (n=59)	4.81	1.293	0.385
6. Communication skills (n=83)	4.76	1.206	0.593
7. Collaboration and working in groups (n=78)	4.56	1.344	-0.483
8. Time management (n=82)	4.84	1.319	0.474
9. Independent learning (n=92)	5.15	1.240	0.894
10. IT skills (n=92)	5.49	1.084	0.740
11. Critical thinking & problem-solving skills (n=83)	4.35	1.115	1.628
12. Lifelong learning orientation (n=79)	4.65	1.121	0.894
13. Enjoyment while learning (n=78)	4.73	1.389	0.673
14. Discipline area knowledge (n=77)	4.86	1.106	0.381
15. Education linking with future & current employment (n=74)	4.81	1.119	-0.039

Notes: The category ‘Don’t know’ was not included in the calculation of means.
 The statistics are calculated on the responses to a 7-point Likert scale.
 The number of valid cases for each item is in brackets.

On several items (attendance, continuance in course, continuance in program), more than half of respondents considered that web-based teaching had had no impact, and on another two items (summative grades, critical thinking & problem-solving skills) almost half of respondents considered that web-based teaching had had no impact.

Table 26.1 Teachers' perceptions of the impact of web-based teaching on various student outcomes

	Attendance n=78		Summative grades n=65		Continuance in course n=72		Continuance in program n=66		Use of self-directed formative assessment n=59		Communication skills n=83		Collab'n & working in groups n=78		Time management n=82	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 Very decreased	2	2.4	0	0.0	0	0.0	0	0.0	1	1.5	1	1.1	0	0.0	2	2.2
2	7	8.2	1	1.4	3	3.8	4	5.4	3	4.6	4	4.4	6	7.0	2	2.2
3	9	10.6	3	4.1	3	3.8	1	1.4	0	0.0	3	3.3	9	10.5	4	4.5
4 No impact	44	51.8	35	47.9	40	50.6	42	56.8	24	36.9	26	28.6	24	27.9	27	30.3
5	10	11.8	20	27.4	15	19.0	15	20.3	8	12.3	24	26.4	20	23.3	18	20.2
6	6	7.1	5	6.8	9	11.4	3	4.1	20	30.8	22	24.2	12	14.0	22	24.7
7 Very increased	0	0.0	1	1.4	2	2.5	1	1.4	3	4.6	3	3.3	7	8.1	7	7.9
Don't know	7	8.2	8	11.0	7	8.9	8	10.8	6	9.2	8	8.8	8	9.3	7	7.9
Total	85	100.0	73	100.0	79	100.0	74	100.0	65	100.0	91	100.0	86	100.0	89	100.0

Table 26.1 cont.: Teachers' perceptions of the impact of web-based teaching on various student outcomes, continued

	Indep't learning n=92		IT skills n=92		Enjoyment while learning n=83		Discipline knowledge base n=79		Critical thinking & problem solving n=78		Lifelong learning orientation n=77		Links with employment n=74	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 Very decreased	1	1.0	0	0.0	3	3.3	0	0.0	2	2.4	1	1.2	0	0.0
2	3	3.1	2	2.0	5	5.4	3	3.4	3	3.6	2	2.3	2	2.4
3	2	2.0	0	0.0	2	2.2	1	1.1	3	3.6	3	3.5	2	2.4
4 No impact	20	20.4	14	14.1	22	23.9	27	31.0	41	48.8	32	37.2	30	36.1
5	25	25.5	27	27.3	25	27.2	27	31.0	18	21.4	21	24.4	20	24.1
6	31	31.6	33	33.3	21	22.8	15	17.2	9	10.7	15	17.4	14	16.9
7 Very increased	10	10.2	16	16.2	5	5.4	6	6.9	2	2.4	3	3.5	6	7.2
Don't know	6	6.1	7	7.1	9	9.8	8	9.2	6	7.1	9	10.5	9	10.8
Total	98	100.0	99	100.0	92	100.0	87	100.0	84	100.0	86	100.0	83	100.0

However, the only item measured that showed a mean decrease was student attendance (3.91). This of course might be appropriate if teachers intended web-based material to replace some face-to-face contact.

All other mean values for the impacts of web-based teaching on students, as perceived by the respondents, were positive (that is, increased).

The teachers using web-based teaching considered on the whole that this form of teaching had a beneficial effect on a range of generic skills (the mean of the means of items 6 to 12 = 4.83) as well as on discipline area knowledge (mean = 4.86) and their actual grades (mean = 4.43). The most marked impacts according to the teachers were on students' IT skills (76.8 per cent of respondents considered that students' IT skills had increased; mean = 5.49) and on independent learning (67.3 per cent of respondents considered that students' independent learning had increased; mean = 5.15). It is clear that the teachers believed that web-based learning contributed to the development of the skills identified in the University's graduate attributes.

On three items (continuance in program, lifelong learning orientation, links with employment) more than 10 per cent of respondents did not know whether there had been an impact of web-based teaching.

Recommendations

- 26.1 Promote the findings that this group of University of Adelaide teaching staff considered that web-supported teaching had a positive impact on their students, particularly in relation to the generic skills required in the University's graduate attributes.
- 26.2 Focus some staff development on how web-based learning and teaching can support the University's graduate attributes program. Include in this a focus on lifelong learning orientation and links with employment.

Question 41: Which of the following equity and access issues have impacted on your students?

- Computer access on campus
- Computer access at term-time address
- Web access
- Cost of web access
- Disability access
- Lack of family or friend who can help with IT issues
- Printing access
- Printing cost
- Other (please specify)

Respondents who had used web-based teaching could select any number of these items. The frequencies of their choices are given in table 41.1.

Table 41.1 Equity and access issues that had impacted on respondents' students

	Yes	Per cent	No	Per cent
Computer access on campus (n=109)	66	60.6	43	39.4
Computer access at term-time address (n=110)	38	34.5	72	65.5
Web access (n=110)	40	36.4	70	63.6
Cost of web access (n=110)	33	30.0	77	70.0
Disability access (n=109)	7	6.4	102	93.6
Lack of family or friend who can help with IT issues (n=110)	23	20.9	87	79.1
Printing access (n=110)	53	48.2	57	51.8
Printing cost (n=110)	66	60.0	44	40.0
Other (n=110)	5	4.5	105	95.5

Note: There were between 7 and 9 missing cases, and 3 respondents answered 'don't know' to all questions. Number of valid cases for each item is given in brackets.

The most common student equity and access concerns among teaching staff who had used web teaching were computer access on campus (61 per cent) and concerns about printing access or costs (48 per cent and 60 per cent respectively). But other access issues (computer access at students' term-time address, and web access and its cost) were also a concern for one-third or more of the respondents.

Recommendations

- 41.1 Ensure that staff and students understand the student printing quota system, and provide ways of facilitating its use. Assess the adequacy and effectiveness of the student printing quota system.
- 41.2 Continue to monitor and upgrade the facilities in on-campus computer suites, and develop more effective means to manage their use (and/or support departments and schools to do this).
- 41.3 Review students' access to computers and the internet at home and on campus. A student IT skills questionnaire that covers these matters is available within every MyUni course and from the LTDU web site (http://www.adelaide.edu.au/ltdu/staff/online/planning/students/net_experience.html). Some data would be available from completed questionnaires.
- 41.4 Include in staff development about online learning and teaching raising awareness of access limitations of particular students and ways to accommodate these within online learning resources and activities.

Question 42: Please comment on these [questions 26–41] or other impacts of web-based teaching on your students.

This open-ended question followed questions 26–41, which asked for respondents' views on the impact on students of various issues relating to web-based teaching. For each respondent, up to two comments concerning impacts of web-based teaching on their students were coded. Fifty respondents made comments, giving a total of 63 responses in the database. The initial categories (see appendix 4) were collapsed into more general categories. Table 42.1 shows the frequency distribution of the 63 responses across the general categories.

Table 42.1 Comments on the impact of web-based teaching tools on students

Comment category	Frequency	Per cent
Support	1	1.6
Infrastructure, systems limitations	20	31.7
Quality / benefits / outcomes concerns	5	7.9
Positive impacts	10	15.9
Some student / course / mode benefits	10	15.9
Student behaviour	7	11.1
Other	5	7.9
Don't know	5	7.9
Total	63	100.0

The most common comments concerned limitations or faults in the University IT infrastructure or the web-based system used by the respondents (n=20, almost one-third of the comments); for example, they had experienced insufficient computers, slow web access in computer suites, or problems trying to print. A further six comments related to access or equity problems in relation to the IT infrastructure for some groups of students; for example, honours students. Thus 42 per cent of the comments expressed concerns about the University's IT infrastructure. This concern was also expressed in other parts of the questionnaire.

Ten comments indicated student benefits from web-supported teaching, including increased student independence, and flexibility of communication and course administration. These comments support the finding that 66 per cent of respondents who had used web teaching tools considered their students had benefited.

Table 42.2 presents a selection of the respondents' comments about the impacts of web-based teaching on their students, transcribed from the questionnaires and collected under the general category headings where possible.

Table 42.2 Respondents' comments about the impacts of web-based teaching on their students

School/department	Comment
Infrastructure, system limitations	
Agriculture & Wine	Students had problems printing pdf files created by ITS. In response to student complaints I had to go back to providing 2 page hard copy lecture summary – in addition to longer summary avail. On MyUni. Admin encourage us to use MyUni but not providing adequate hardware on Waite campus for student access.
Molecular & Biomedical Science	The size limit of attachments is a problem for students wishing to view films that were shown in class.
European Studies	Many students cite computer difficulties as the reason why they could not hand homework up on time.
Law	Students are concerned that there is insufficient access ... [this is] decreasing over time.
Agriculture & Wine	System breakdowns need to be fixed quickly – they inevitably happen at the worst times!
Law	The costs of printing are the biggest cause for complaint.
Clinical & Experimental Pharmacology	'Minor' issues such as disputes over who should unlock the doors of the computer suite and at what time in the morning, who is responsible for refilling paper in printer etc (all worse since ITS centralization) have major impact on student access.
CESGL	I think adequate access is the key issue & often quite invisible when schemes are being set up.

Quality / benefits / outcomes concerns	
Social Sciences	A higher proportion of on-line students fail / withdraw + do badly.
Politics	On-line tutorials take away the fun of learning in groups and do not enable student to interact in a way that might trigger new ideas.
Social Sciences	I have <u>never</u> before had the rates of withdrawal, failure and resentment that I have had with on-line delivery. Many students think it is a bargain basement course!
Positive impacts	
Molecular & Biomedical Science	Certain aspects of my teaching have been moved to web-based systems – mostly handing up of assignments. This has decreased time management & increased [student] independence.
Pathology	Having spoken to students it seems that they love the web based teaching. It makes them responsible for downloading information rather than it being our responsibility.
History & Politics	Students see what the course is about and where it is headed. This encourages them to attend and to seek more information.
Earth & Environmental Sciences	Students developed a competitive edge towards solving the problems given via web.
Elder School of Music	It has assisted students who are unable to attend some lectures.
ECIC	Typically received positive comments in open-ended SET questions (eg 'best feature of course').
Adelaide Graduate School of Business	Useful for students to retrieve lost documents, see grades etc.
Some students, courses, modes benefit	
Economics	The <i>average</i> effect is not really useful. I know that some students benefited greatly while others were completely turned off. I attempted to find details about this, by attaching a MyUni questionnaire to my SET forms. Unfortunately, in spite of my urgent request and detailed explanations to ACUE, the two parts were separated before processing.
Anthropology	Issues seem to be exacerbated for poor, older and Indigenous students.
Graduate School of Management	Many of my students travel as part of their jobs and do not have access to the web at some locations. At least with class-room based teaching you know they will all be there one day a week for 3 hours. This is easier to achieve than 1 hour a day every day.
Social Sciences	The quality of materials downloadable with many students home computers is really poor and slow (especially in remote areas of Australia).
Clinical Nursing	Off campus students using MyUni at their own cost is an issue.
Linguistics	Great language learning resource for international students.
Agriculture & Wine	Access & problems such as failure to allow p/g coursework (FULL FEE PAYING & NOT IMPRESSED WITH U of A!) & other non-std enrolments to access MyUni for UP TO 6 WEEKS!!!
Chemistry	Home access is often impossible owing to incompatible commercial software (so I am told).
Student behaviour	
Clinical & Experimental Pharmacology	Aside from a small number of students, most students use web-based materials at the last moment (exactly as they do with paper based materials). Electronic submission & email means the students can avoid interacting with the department!
Anatomical Sciences	There needs to be reinforcement to students to read student emails thru which they are contacted via MyUni. Can be frustrating. You expect a quick response but alas some students only access the system monthly.
Elder School of Music	Fewer students take notes in lectures because they know that lectures are available online. This is not necessarily a good thing!
Humanities	Tendency of data being wiped (allegedly) leads to a new line of excuse for missing / late work.
Law	[Students] are scared of online learning ... [this is] decreasing over time.
Don't know	
Earth & Environmental	I have never really found out from my students what they have got from MyUni.

Sciences	
Chemical Engineering	Clearly the students value the web-based resources but I have had negligible feedback on pros / cons from students (both o/s & local).

Summary, section D

While most respondents who had used web-based teaching considered that this mode of learning and teaching had benefited their students, a considerable minority did not or were uncertain, indicating a possible need for respondents to use more or more focused student evaluation in their courses.

Respondents considered the benefit to students to be evident mainly in the development of generic skills, particularly IT skills and independent learning. They were less certain (although they still gauged a positive impact) about the development of lifelong learning skills and whether web-based teaching had had an effect on links with employment. In terms of equity and access issues for students, respondents were most concerned about University infrastructure and access to and cost of printing.

Thus while the respondents in general felt their students had benefited from web-supported teaching and learning, at the same time they were aware of the issues students are likely to face, including the limitations of and access to adequate infrastructure to support positive outcomes for students.

Section E: Teaching outcomes and values

Respondents who had used web-teaching tools (n=120) were asked a number of questions about the impact of their use of web teaching tools on their teaching and related activities. The analysis of fixed-response questions excluded respondents who had not used web teaching tools. Open-ended questions were considered for all respondents.

Question 43: Did web-based teaching benefit your teaching or other activities?

Respondents were asked whether web-based teaching had benefited their teaching or other activities, and then a number of questions to elaborate its impact on aspects of their teaching-related activities.

Table 43.1 Whether web-based teaching benefited respondents' teaching or other activities

	Frequency	Per cent
Yes	87	75.7
No	5	4.3
Don't know	23	20.0
Total	115	100.0

Note: Missing cases = 5.

Seventy-six per cent of respondents who had used web-based teaching thought that it had benefited their teaching or other activities, a greater proportion than the 66.4 per cent who thought it had benefited their students (table 25.1). Similar to student benefit, a sizable proportion (20 per cent) did not know whether there had been a benefit to their teaching. Respondents were more confident of the benefit of web-based teaching for their teaching than for their students.

Eight and five respondents respectively felt that web-based teaching had not benefited their students or their teaching.

The benefit to the respondents' teaching or other activities was explored further by considering its relationship with the length of time respondents had been using web teaching tools (table 43.2).

Table 43.2 Respondents' perception of benefit to their teaching or other activities by length of use of web teaching tools

Benefit to teaching	1 year or less		2-3 years		4 years or longer	
	Frequency	Per cent	Frequency	Per cent	Frequency	Per cent
Yes	28	77.8	31	70.5	27	79.4
No	2	5.6	3	6.8	0	0.0
Don't know	6	16.7	10	22.7	7	20.6
Total	36	100.1	44	100.0	34	100.0

Note: missing cases = 6. The differences were not significant:

There was little difference between the respondents with different lengths of experience with web-based teaching in their perception of benefit to their teaching or other activities. Experience cannot therefore explain the differences in perceptions among the respondents of whether web-supported teaching benefited their teaching or other activities. When benefits to students were considered, there was a hint that experience using web teaching tools was associated with student benefit (although this was not significant) (table 25.2).

Recommendations

43.1 Develop the effective use of evaluation more widely among teaching staff, particularly in relation to web-supported teaching.

43.2 Focus staff development on demonstrating the benefits of web-based teaching, and how to achieve these.

Question 44: If you answered ‘Yes’ to the previous question, was that benefit displayed:

- In all courses
- In some courses
- Not initially
- As I became more experienced
- With some types of students
- Other

Respondents who indicated that web-based teaching had benefited their teaching or other activities (n=87) were asked to elaborate on that benefit. They could respond to any number of the items for this question. Each was coded as a separate binary variable. Table 44.1 shows the results.

Table 44.1 How benefit to teaching was displayed

Benefit displayed:	Yes	Per cent
In all courses	42	50.0
In some courses	19	22.6
Not initially	1	1.2
As I became more experienced	26	31.0
With some types of students	9	10.7
Other	1	1.2

Note: Missing cases = 3.

While half of the respondents considered that web-based teaching benefited them in all courses they taught, a sizable 23 per cent felt that benefit in some courses only.

One-third of respondents whose teaching had benefited felt this benefit as they became more experienced with web-based teaching. This contrasts with the figures in table 43.2, which did not show a relationship between the perception of benefit and length of time web teaching tools had been used. When respondents who had benefited were asked specifically about this relationship many clearly reflected that a benefit had accrued with experience.

Eleven per cent of respondents distinguished a benefit for some types of students. This reinforces the findings from question 42, in which 10 comments (16 per cent) noted a benefit for some students, course or modes of delivery.

Recommendations

- 44.1 Embed in staff development and promotion of web-supported teaching and learning the concept that the benefits are likely to be felt increasingly with experience.
- 44.2 Distinguish training and staff development activities that raise awareness of benefits that can be accrued for any course from activities that are focussed on benefits for particular student groups, delivery modes, programs or types of courses.
- 44.3 Support further research into the ways in which web-supported teaching and learning can benefit particular groups of students, modes of delivery, programs and courses at the University of Adelaide. This would enable focusing of scarce support and staff development resources into areas where the returns were likely to be worthwhile.

Questions 45–63: Rate the impact of web-based teaching on your teaching and other activities:

- | | |
|--|---|
| 1. Time on preparation of teaching | 10. Work on administration of online course |
| 2. Time on delivery of teaching | 11. Communication with students |
| 3. Time on administration of course | 12. Extent of re-evaluation of teaching aims |
| 4. Time on assessment | 13. Teaching confidence |
| 5. Time on communicating with students | 14. Pedagogical skills |
| 6. Time on communicating with peers | 15. IT skills |
| 7. Time on communicating with University administration regarding the course | 16. Use of online assignment submission |
| 8. Work on preparation and delivery of content | 17. Use of online assignment assessment |
| 9. Work on organisation of course process and structure | 18. Use of online assignment feedback |
| | 19. Use of online assessment grades visible to students |

Respondents who had used web-based teaching were asked to rate the impact on their teaching or other activities of a set of 19 items, ranked on a 7-point Likert scale from 1, very decreased, to 7, very increased. The frequencies for each item are shown in table 45.1. It should be noted that the missing cases for this set of items ranged from 12 to 64.

More than half of the respondents who answered these questions found that web-based teaching had caused an increase in the following:

- time on preparation of teaching (68.9 per cent of respondents)
- time on administration of course (54.3 per cent of respondents)
- work on preparation and delivery of content (75.0 per cent of respondents)
- work on organisation of course process and structure (60.2 per cent of respondents)
- work on administration of online course (81.9 per cent of respondents)
- communication with students (62.6 per cent of respondents)
- IT skills (71.3 per cent of respondents)
- use of online assignment submission (57.8 per cent of respondents)
- use of online assignment feedback (68.7 per cent of respondents)
- use of online assessment grades visible to students (62.1 per cent of respondents)

The most consistently applying impacts were increased work on administration of the online course and increased work on preparation and delivery of content.

Teaching staff who had used web-based teaching tended to use online assignment submission, feedback and notification of grades to a greater extent than they used online assessment (table 45.1). In question 21, fewer (31.6 per cent) respondents reported using assessment management as part of their web-supported teaching activities. This difference may be evidence of closer discernment by respondents of activities related to assessment management in the questions considered here than in the earlier question. However, there were relatively high numbers of 'not applicable' responses to the Likert scale items relating to assessment. This is discussed below in relation to the mean use of online assessment and assessment management.

Table 45.1 Respondents' perceptions of the impact of web-based teaching on their teaching or other activities

	Time on preparation of teaching (N=106)		Time on delivery of teaching (N=101)		Time on administration of course (N=105)		Time on assessment (N=89)		Time on communicating with students (N=108)		Time on communicating with peers (N=93)		Time on communicating with University administration regarding the course (N=93)		Work on preparation and delivery of content (N=108)		Work on organisation of course process and structure (N=103)		Work on administration of online course (N=94)	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
1 Very decreased	1	.9	0	0.0	0	0.0	1	1.1	0	0.0	2	2.2	0	0.0	0	0.0	0	0.0	0	0.0
2	3	2.8	3	3.0	6	5.7	3	3.4	16	14.8	5	5.4	3	3.2	6	5.6	4	3.9	1	1.1
3	9	8.5	15	14.9	17	16.2	7	7.9	19	17.6	8	8.6	3	3.2	4	3.7	5	4.9	2	2.1
4 No impact	20	18.9	53	52.5	25	23.8	56	62.9	25	23.1	55	59.1	43	46.2	17	15.7	32	31.1	14	14.9
5	28	26.4	17	16.8	28	26.7	13	14.6	23	21.3	12	12.9	19	20.4	34	31.5	37	35.9	29	30.9
6	27	25.5	8	7.9	21	20.0	4	4.5	16	14.8	9	9.7	18	19.4	30	27.8	17	16.5	30	31.9
7 Very increased	18	17.0	5	5.0	8	7.6	5	5.6	9	8.3	2	2.2	7	7.5	17	15.7	8	7.8	18	19.1
Total	106	100.0	101	100.0	105	100.0	89	100.0	108	100.0	93	100.0	93	100.0	108	100.0	103	100.0	94	100.0

Note: Missing cases ranged from 12 to 64.

Table 45.1 cont.: Respondents' perceptions of the impact of web-based teaching on their teaching or other activities, continued

	Communication with students (N=107)		Extent of re-evaluation of teaching aims (N=90)		Teaching confidence (N=97)		Pedagogical skills (N=92)		IT skills (N=101)		Use of online assignment submission (N=64)		Use of online assignment assessment (N=56)		Use of online assignment feedback (N=67)		Use of online assessment grades visible to students (N=58)	
	No.	%	No.	%	No.	%	No.	%	No.	%	%	%	No.	%	No.	%	No.	%
1 Very decreased	1	.9	0	0.0	0	0.0	2	2.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
2	8	7.5	2	2.2	2	2.1	2	2.2	0	0.0	2	3.1	2	3.6	2	3.0	3	5.2
3	7	6.5	2	2.2	4	4.1	2	2.2	3	3.0	2	3.1	0	0.0	0	0.0	0	0.0
4 No impact	24	22.4	47	52.2	54	55.7	54	58.7	26	25.7	23	35.9	27	48.2	19	28.4	19	32.8
5	35	32.7	20	22.2	21	21.6	21	22.8	40	39.6	15	23.4	10	17.9	17	25.4	15	25.9
6	22	20.6	17	18.9	14	14.4	8	8.7	25	24.8	12	18.8	10	17.9	23	34.3	14	24.1
7 Very increased	10	9.3	2	2.2	2	2.1	3	3.3	7	6.9	10	15.6	7	12.5	6	9.0	7	12.1
Total	107	100.0	90	100.0	97	100.0	92	100.0	101	100.0	64	100.0	56	100.0	67	100.0	58	100.0

More than half of the respondents felt that there had been no impact on the following:

- time on delivery of teaching (52.5 per cent of respondents)
- time on assessment (62.9 per cent of respondents)
- time on communicating with peers (59.1 per cent of respondents)
- extent of re-evaluation of teaching aims (52.2 per cent of respondents)
- teaching confidence (55.7 per cent of respondents)
- pedagogical skills (58.7 per cent of respondents)

The means and standard deviations for each item were calculated and are presented in table 45.2.

Table 45.2 Means and standard deviations of respondents' perceptions of impacts of web-based teaching on their teaching or other activities

	Mean	Standard deviation	Kurtosis
1. Time on preparation of teaching (n=106)	5.11	1.368	-0.146
2. Time on delivery of teaching (n=101)	4.27	1.067	0.796
3. Time on administration of course (n=105)	4.62	1.333	-0.710
4. Time on assessment (n=89)	4.22	1.053	2.232
5. Time on communicating with students (n=108)	4.29	1.504	-0.921
6. Time on communicating with peers (n=93)	4.13	1.096	1.412
7. Time on communicating with University administration regarding the course (n=93)	4.72	1.146	-0.139
8. Work on preparation and delivery of content (n=108)	5.19	1.300	0.183
9. Work on organisation of course process and structure (n=103)	4.80	1.141	0.189
10. Work on administration of online course (n=94)	5.48	1.095	0.007
11. Communication with students (n=107)	4.78	1.362	-0.038
12. Extent of re-evaluation of teaching aims (n=90)	4.60	0.969	0.203
13. Teaching confidence (n=97)	4.48	0.937	0.563
14. Pedagogical skills (n=92)	4.37	1.024	2.581
15. IT skills (n=101)	5.07	0.951	-0.435
16. Use of online assignment submission (n=64)	4.98	1.266	-0.504
17. Use of online assignment assessment (n=56)	4.84	1.218	-0.274
18. Use of online assignment feedback (n=67)	5.15	1.118	0.175
19. Use of online assessment grades visible to students (n=58)	5.00	1.243	0.008

Notes: Number of valid cases for each item is in brackets. Missing cases ranged from 12 to 64.

While the means for all time and work-related measures indicated increased time and work needed for web-based teaching (means > 4.0), particularly time on preparation of teaching (mean = 5.11) and work on preparation and delivery of content (5.19), staff also reported mean increases in their IT skills (5.07), teaching confidence (4.48), pedagogical skills (4.37) and re-evaluation of teaching aims (4.60). These findings echo the concerns expressed in open-ended questions about time and workload, but they also make more explicit some of the benefits of web-supported teaching.

The means for the measures relating to assessment (items 16–19) indicated an expected increased use among those who had used online assessment and online assessment management (not applicable responses were excluded from the calculation of means). However, relatively high numbers of 'not applicable' responses on these items (table 45.3) also support the previous finding that many users of web-based teaching had not used online assessment. While a not applicable response does not indicate with certainty that these

respondents did not use online assessment, the finding concurs with the finding from question 21 that 68 per cent of respondents who had used web teaching tools had not used them for assessment management.

Table 45.3 Teachers who used web-based teaching tools who answered ‘not applicable’ to assessment items

	No. not applicable	Per cent not applicable	Total responses for item
Use of online assignment submission	53	45.3	117
Use of online assignment assessment	59	51.3	115
Use of online assignment feedback	50	42.7	117
Use of online assessment grades visible to students	57	49.6	115

Recommendations

- 45.1 Provide support and resources that acknowledge the greater time and work involved in developing, delivering and managing online courses, including time release and encouragement from local managers. Support for teaching preparation and developing and delivering online content might include instructional design guidance and the provision of support staff to produce content.
- 45.2 Raise awareness of the potential benefits of web-supported teaching, and the time and workload costs, among school, department and faculty managers, and encourage development of strategies at those levels to support staff in undertaking web-supported teaching.
- 45.3 Raise awareness of the potential benefits of web-supported teaching for staff, and provide staff development to help them achieve these benefits. Such activities might usefully draw upon the experiences of successful online teachers at the University.
- 45.4 Offer and promote, and support with policies and strategies, staff development and training in the use of individual aspects of web-supported teaching, including the use of the online environment to support assessment and assessment management.
- 45.5 Develop MyUni to provide further facets of online assessment and assessment management.

Question 64: Please comment on any of the above as issues for your web-based teaching, and/or on other issues

This open-ended question follows questions 45–63, which asked for respondents’ views on the impact of web-based teaching on their teaching and other activities. Comments from the whole sample were coded. For each respondent, up to three comments were coded. 38 respondents commented, giving a total of 60 coded responses in the database. The initial categories (see appendix 4) were collapsed into more general categories. Table 64.1 shows the frequency distribution of the 60 responses across the general categories.

Table 64.1 Open comments about the impact of web-based teaching tools on respondents' teaching or other activities

Comment category	Frequency	Per cent
Time, workload	27	45.0
Skills, knowledge	2	3.3
Support	2	3.3
Tools, web-based system	2	3.3
Infrastructure	3	5.0
Quality / benefits / outcomes concerns	2	3.3
Copyright	1	1.7
Benefits: time, workload, efficiency	8	13.3
Some students, courses, aspects of courses	4	6.6
Other	9	15.0
Total	60	100.0

Similar to the responses to questions 15 and 16, and echoing some of the impacts of web-based teaching on users of web-based teaching tools, the most common concern was time and workload (n=27 responses). There were two main groups among these 27 responses: 12 comments concerned the perceived greater time needed to develop or prepare materials, and seven concerned more time spent on teaching activities such as communicating with students and explaining things. On the other side of the balance, there were eight comments about benefits in terms of time, workload or efficiency.

There was a total of six comments relating to skills and knowledge about web-based teaching tools: two comments related to lack of skills or knowledge, and another four related to the time needed to learn to use web-based tools: these were coded in the time category.

Table 64.2 presents a selection of the responses, transcribed from the questionnaires and collected under the broad category headings.

Table 64.2 Respondents' comments on the impact of web teaching tools on their web-based teaching and/or other issues

School/department	Comment
Time, workload	
Civil & Environmental Engineering	Any change in teaching practice requires time & effort (= money). While in many instances the will for improved teaching practices is there, the practicalities / realities of the increasing and increasingly competing demands on academics in an environment of diminishing resources & increasing student numbers are that what one would like to do and what one is able to do are quite different.
Graduate School of Management	The web adds a significant additional time overhead to preparation and delivery of a course vis-à-vis class-room.
Mechanical Engineering	Initially more time involved to set up and gain skills but very apparent increase in long term efficiency.
Social Sciences	I find the medium labour intensive and unrewarding.
Pure Mathematics	It's a lot more work for me, with little or no benefit for the students.
CESGL	From undergraduate students, email is occasionally useful but also usually time wasting and unnecessary.
Molecular & Biomedical Science	Teacher accessibility by internet increases the time required to write replies to students – sometimes with considerable duplication!
Chemical Engineering	Time involved in preparing material for web is greater than other methods. Preparation time can be off-set to some extent for repeated lectures BUT each year needs a significant re-work of material for some subjects which is more time-consuming than traditional methods.
Architecture	Major impact on time esp[ecially] re assessment.

Animal Science	High hours of input are needed initially to ensure content is of appropriate quality.
Skills, knowledge	
Dental School	Need more experience in managing course assessment & administration via WBT.
Support	
Agriculture & Wine	I am concerned that there will be less local IT help in future – a helpdesk at Nth Tce is not the answer.
Tools, web-based teaching system	
Social Sciences	Very difficult to get reliable SELT evaluations on-line.
Infrastructure	
Architecture	V difficult to access [Adelaide] Uni online.
Linguistics	Online assignment submission is limited by space – my subject involves large, multimedia files.
Architecture	Files are often large making it difficult to transfer from home to uni.
Copyright	
Public Health	The recent copyright issues in regards to MyUni mean that staff will not use it as it creates yet more work.
Benefits: time, workload, efficiency	
Adelaide Graduate School of Business	Can keep a course 'alive' through regular updates.
Pathology	I feel that students communicate better via email & web than they ever did previously which is great. Now that my confidence with the system is higher I feel it will make my life significantly easier.
Some students, courses, aspects of courses	
Pure Mathematics	I don't really do web-based 'teaching'. For me the web is a fancy way of handling distribution of material and communicating. I teach face to face.
Chemistry	Some depts. Feel obliged to rely too heavily on this type of teaching. I do not believe that this has educational merit. WBT is a tool, nothing else.
Mixed-category responses	
Geology & Geophysics	Generally excellent as a database, communications portal. Not so easy to use as an assessment tool – much quicker in class. [efficiency benefit, tools inadequacy]
Politics	On-line tutorials take more time to deliver without adding anything positive to the learning experience of the student... They become brief written exams rather than interactive inspiring discussions. [time cost, quality of learning]
Mechanical Engineering	The significant gain for me is the timesaving in communication (through announcements and materials online). The cost is in the time required at outset to set it up and attend training. [time benefit, time cost]
Anatomical Sciences	Overall using MyUni reduced my preparation time on all aspects of course structure, especially administration. Only increase was time spent on posting notices / announcements. [time benefit, time cost]
Law	There is a time cost in learning new systems – there is virtually non existent admin support to staff. [time, support]
Humanities	Course preparation vastly increased esp. because of inflexibility of MyUni to merge sections of a course; ie options taken by level II + III students. [time/workload, infrastructure]

The issue of copyright has again been raised in this set of comments, and there is an indication that some staff could benefit from support to use web teaching tools more effectively for course organisation and administration.

The comments also indicate again an appreciation among respondents of the existence of both costs *and* benefits of undertaking web teaching.

Recommendations

- 64.1 Give high profile to further information sessions about the new copyright laws as they relate to use of online resources in teaching, promote understanding and use of the University's Digital Resources Management Centre, and further develop support in relation to use of digital resources.
- 64.2 Include activities and resources (for example, easy-access tips) for teaching staff about effective use of online teaching tools, including communication tools, to gain time and workload efficiencies.

Questions 65–68: Rate the impact of the following on your web-based teaching:

- IT infrastructure
- Software access
- Help Desk support
- Colleague support

Respondents who had used web-based teaching were asked to rate the impact on their web-based teaching of several factors relating to institution-level support. Items were ranked on a 7-point Likert scale from 1, very negative, to 7, very positive. The frequencies are presented in table 65.1, and means calculated on the 7-point scale are presented in table 65.2.

Table 65.1 Perceived impact of various institution-level support factors on respondents' web-based teaching

	IT infrastructure		Software access		Help Desk support		Colleague support	
	No.	%	No.	%	No.	%	No.	%
1 Very negative	6	5.7	4	4.0	7	6.9	1	1.0
2	12	11.4	7	6.9	7	6.9	6	6.0
3	18	17.1	12	11.9	3	2.9	6	6.0
4 No impact	10	9.5	31	30.7	22	21.6	25	25.0
5	28	26.7	24	23.8	21	20.6	27	27.0
6	23	21.9	17	16.8	18	17.6	23	23.0
7 Very positive	8	7.6	6	5.9	24	23.5	12	12.0
Total	105	100.0	101	100.0	102	100.0	100	100.0

Note: Missing cases ranged from 15 to 20.

Table 65.2 Mean responses to institutional support factors among users of web-based teaching tools

	Mean	Standard deviation
IT infrastructure (n=105)		1.69
Software access (n=101)		1.44
	4.89	-0.349
	4.88	-0.111

Note: Missing cases ranged from 15 to 20.

Respondents who responded to these questions (there were relatively high numbers of missing cases) indicated a positive impact of the four measures used, particularly support from the IT or Online Help Desk and respondents' colleagues. Thus, the respondents who had used web teaching tools seemed to have felt positive overall about these institutional support factors, despite many respondents expressing concerns about such support in other parts of the questionnaire.

Recommendations

- 65.1 Investigate ways in which the support that exists for web-supported teaching can be made more readily accessible to teaching staff, especially those who do not already use web-supported teaching.
- 65.2 Fine tune existing support to meet the needs of teaching staff at different levels of web teaching use, and who wish to use it in different ways.

Summary, section E

Respondents who had used web-based teaching tools considered overall that there had been a benefit for their teaching, and there was an overall increase in IT skills, pedagogical skills and teaching confidence. Respondents were also positive overall about institutional support provided in a number of areas. Many also recognised the benefits of experience, and some distinguished time and workload efficiencies and benefits for students, especially in some courses and for some types of students.

At the same time respondents reported a greater time and workload required for several aspects of web-supported teaching and the predominant concerns expressed in the open comments were about time and workload.

The findings in this section also supported the previous finding that many respondents had not used online assessment or assessment management, and the issue of copyright was again raised.

Section F: Future intentions about web teaching tools at the University of Adelaide

Section F of the questionnaire, asked of all respondents (n=156), sought information about their future intentions with regard to using web-based teaching tools at the University, and the impact of various factors on their decision.

Question 69: Will you:

- Never use web teaching tools
- Use MyUni
- Use other web teaching tools
- Other

All respondents were asked what their future intentions were for web-based teaching. Two choices were coded (table 69.1).

Table 69.1 Future intentions for web-based teaching

	First choice		Second choice	
	Frequency	Per cent	Frequency	Per cent
Use MyUni	132	88.0	1	2.3
Use other web teaching tools	5	3.3	38	88.4
Never use web teaching tools	5	3.3	0	0.0
Other	8	5.4	4	9.3
Total	150	100.0	43	100.0

Note: Missing cases: first choice = 6; second choice = 113.

Close to 90 per cent of respondents indicated that they would use MyUni in the future for web-based teaching. A simple crosstabulation revealed that, among the group of respondents who had not used web-based teaching tools (n=35 valid cases), 74.3 per cent said they would use MyUni in the future, leaving nine individuals (25.7 per cent) who did not have that intention. Among the group who had used web-based teaching tools (n=120), 88.3 per cent intended to continue, leaving 11.7 per cent who did not state that intention.

In all, 43 respondents (28 per cent) said they intended to use other web teaching tools, either in addition of MyUni or instead. If this proportion is indicative of teaching staff as a whole at the University, it is an important finding.

For the whole sample, in the first choice for 'other', five respondents gave responses such as 'I'll try to avoid web based teaching', 'I'll use it if I'm told to', and 'I'm retiring so I don't have to make a choice'. This group, combined with the five respondents who stated that they would never use web teaching tools, gives 10 respondents (6.6 per cent) who did not intend to use some kind of web teaching tool in the future.

The 'other' future intentions that were specified, for both choices combined, included 'Use a department/school web pages or system' (n=3) and 'Don't know' (n=2).

To discover whether there was a pattern of first and second choices, a cross-tabulation was done of first choice against second choice. Among the 43 respondents who made a second choice 38 of them (88.4 per cent) had chosen MyUni as their first choice, and one had chosen other web teaching tools as their first choice, and MyUni as their second choice.

To discover whether there was a relationship between whether respondents currently used MyUni and their intended use, a simple cross-tabulation was performed between whether respondents currently used MyUni and their first choice for future intention, using the group of 120 users of web teaching tools. Among 102 respondents who had used MyUni (see

question 20), 98 (96.1 per cent) intended to continue using it. Of the remaining four, two intended not to use web teaching tools, one was about to retire, and one intended to use other tools. Among 11 respondents who had not used MyUni, five intended to use it in the future, and five intended to use other web-teaching tools.

Thus, while the majority of all respondents (those who had used web teaching tools and those who had so far not done so) intended to use MyUni in the future, there was also close to one-third of respondents who intended to use other tools, in addition to or instead of MyUni. Few respondents did not intend to use web teaching tools at all.

Recommendations

- 69.1 Continue to improve understanding of the capabilities and functionality of MyUni in supporting teaching and learning, especially among users of other systems. Investigate further the perceived barriers to the adoption and further use of MyUni.
- 69.2 Improve access to support available for teaching staff who use web teaching tools or systems other than MyUni. Some such support could be provided through staff development and training in relation to the principles of web-supported teaching, which are relevant whether MyUni or another system is used. An increased focus on principles, using MyUni as an example, may help remove some of the barriers to MyUni use.

Question 70: Which of the following factors impact upon your decision about using, not using or continuing to use MyUni? (tick one or more boxes)

- Personal motivation
- Quality of learning and teaching
- Course administration
- Work issues
- Teaching at university
- University decision making
- Own skills
- Funds
- Staff development
- Technology issues
- IT training
- Other (please specify)

Categories were presented as binary variables, and all respondents (n=156) were asked to indicate whether each factor had affected their decision about using, not using or continuing to use MyUni. The question canvasses the same issues as those canvassed in question 14, in relation to the adoption of web-based teaching tools by respondents who had not used such tools.

Table 70.1 Factors impacting upon respondents' decision about using, not using or continuing to use MyUni

Factor	Yes	Per cent	No	Per cent
Personal motivation	64	42.4	87	57.6
Quality of learning and teaching	98	64.9	53	35.1
Your conception of teaching at university	49	32.5	102	67.5
Staff development	31	20.5	120	79.5
IT training	34	22.5	117	77.5
Your own skills	49	32.5	102	67.5
Work issues	30	19.9	121	80.1
University decision making	27	17.3	124	79.5
Course administration	58	38.4	93	61.6
Funds	22	14.6	129	85.4
Technology issues	39	25.8	112	74.2
Other	19	12.6	132	87.4

Note: Missing cases=5.

All the issues canvassed had an impact on the decisions of some teaching staff, the most commonly expressed impact being concern about the quality of teaching and learning that could be achieved using MyUni. Personal motivation had an impact for 42 per cent of respondents. The main category for 'other' impacts related to not having enough time (n=9). (Eight of these respondents intended to use MyUni in the future.)

Since respondents answered this question whether or not they intended to use MyUni in the future, a crosstabulation was performed to distinguish the impacts on their decision among those who intended to use MyUni and among those who did not or might not. The first choice for future use was used, and data for 'other impact' were not included.

Table 70.2 Impact of various factors on the decision of respondents to use or not to use MyUni in the future

Factor	Will use MyUni		Will/may not use MyUni*	
	Yes	Per cent**	Yes	Per cent**
Personal motivation	59	44.7	5	26.3
Quality of learning and teaching	88	66.7	10	52.6
Your conception of teaching at university	42	31.8	7	36.8
Staff development	30	22.7	1	5.3
IT training	32	24.2	2	10.5
Your own skills	46	34.8	3	15.8
Work issues	27	20.5	3	15.8
University decision making	20	31.8	7	36.8
Course administration	56	42.4	2	10.5
Funds	19	14.4	3	15.8
Technology issues	34	25.8	5	26.3

Note: Missing cases=5. For 'will use MyUni' n=132; for 'will/may not use MyUni' n=19.

* The category 'will/may not use MyUni' comprises all cases that did not reply 'yes' to the question, and includes 6 respondents who did not answer the question.

** = per cent within whether respondents would use MyUni in future.

The main impact on their decision for both groups of respondents was quality of learning and teaching. Other important factors for respondents who intended to use MyUni in the future were personal motivation and course administration. For those who did/might not intend to use MyUni in the future, other important factors were their conception of teaching at university and University decision making.

It is a weakness in the questionnaire design that positive and negative impacts were not able to be distinguished clearly in these factors. However, it is clear from responses to open-ended questions that many respondents were concerned about the quality of learning and teaching possible using web-based tools, and about many of the other issues canvassed here.

Finally for question 70, we sought to differentiate between the group of respondents who had not used web-based teaching tools, and those who had. The results are presented in table 70.3.

Table 70.3 Impact of various factors on the decision of respondents to use or not to use MyUni in the future, by whether or not they had used web teaching tools

Factor	Had not used web teaching tools (n=33)		Had used web teaching tools (n=118)	
	Yes	Per cent**	Yes	Per cent**
Personal motivation	12	36.4	52	44.1
Quality of learning and teaching	16	48.5	82	69.5
Your conception of teaching at university	14	42.4	35	29.7
Staff development	6	18.2	25	21.2
IT training	5	15.2	29	24.6
Your own skills	8	24.2	41	34.7
Work issues	8	24.2	22	18.6
University decision making	5	15.2	22	18.6
Course administration	9	27.3	49	41.5
Funds	3	9.1	19	16.1
Technology issues	5	15.2	34	28.8

Note: Missing values: n=3 for non- users of web teaching tools; n=2 for users of web teaching tools.

Again, the major impact for both groups concerned quality of learning and teaching from use of web teaching tools. Respondents who had not used web teaching tools recorded similar impacts in relation to MyUni adoption to those for their decision about adopting web teaching tools (question 14), the exception being that far fewer identified an impact from IT training in relation to MyUni adoption than in relation to adoption of web teaching tools in general.

For respondents who had used web teaching tools, personal motivation and course administration were again important impacts on their decision in relation to using MyUni. Since these factors did not feature prominently in the open-ended comments they may indicate a positive impact for some respondents.

Question 71: What teaching or related activities would you like to be able to do with MyUni?

This open-ended question was asked all respondents. For each respondent, up to three comments concerning teaching or related activities respondents would like to be able to do (or do differently) with MyUni were coded. 66 respondents (42.3 per cent) chose to comment, giving a total of 86 responses in the database. The initial categories (see appendix 4) were collapsed into more general categories. Note, the classification of activities into ‘basic’ and ‘more advanced’ was the researchers’. Table 71.1 shows the frequency distribution of the 86 responses across the general categories.

Table 71.1 Teaching or related activities respondents would like to be able to do (or do differently) with MyUni

Comment category	Frequency	Per cent
Currently available basic activities	16	18.6
More advanced features / activities	41	47.7
Course administration, management, evaluation	7	8.1
A new teaching challenge	2	2.3
Negative perceptions of MyUni	8	9.3
Would like no change	4	4.7
Use for particular students or courses	2	2.3
Other	1	1.2
Don't know	5	5.8
Total	86	100.0

The most common open comments concerned respondents' desire to do more 'advanced' activities which they had not yet done themselves or which they perceived could currently not be done with MyUni (n=41): these related principally to the assessment capacity of MyUni (n=17), to other interactive features such as discussion groups and multimedia (n=20), and to course administration matters (n=7).

There were eight comments indicating that some respondents would like never to use MyUni. These were all, in fact, from the first open comment, indicating that they came from eight respondents, and constituted 12.1 per cent of the responses to the question. The discussion of responses to question 69 has indicated that up to one-third of respondents intended to use web teaching tools other than or in addition to MyUni, but that only five respondents (3.3 per cent) indicated that they would never use web teaching tools.

Table 71.2 presents a selection of the open-ended responses, transcribed from the questionnaires and collected under the general category headings where possible.

Table 71.2 Respondents' comments about teaching or related activities they would like to be able to do (or do differently) with MyUni

School/department	Comment
More advanced features or activities	
Applied Mathematics	The ability to somehow put software – Java applications? Microsoft applications? – onto the [MyUni] web site would be beneficial. Can this be done?
Library	I would like to have assessment questions in MyUni to which seamless, password controlled access is available, with the ability to return to the external text clearly pathed at the MyUni end (and customisable there).
Clinical & Experimental Pharmacology	Self paced interactive tutorials (like chem.). Remote tutorial groups (#@!XX#).
European Studies	Access multimedia – e.g. radio & television programmes, as authentic teaching materials.
Civil & Environmental Engineering	More routine assessment.
Humanities	Post video & music – haven't tried this yet.
Law	More multimedia – real time voice tutorial / video links etc.
Dental School	Everything.
Agriculture & Wine	More interactive resources for students
Agriculture & Wine	Quizzes & also chat tute rooms.
Anatomical Sciences	Interactive web pages for student learning, such as quizzes etc. This would be useful for me to learn & organise so the students have yet another medium in which to learn the topic.
Geology & Geophysics	More flexible development of own or course web pages. Computer aided assessment (formative & summative).
Law	To be able to provide access to taped lectures.
Mathematics	Improved weekly assessment.
Mechanical Engineering	More sophisticated grading of assignments.
Earth & Environmental Sciences	Have more discussion to broaden student experiences.
Course administration, management, evaluation	
Architecture	Online evaluation of subject / course.
Chemical Engineering	Use the web so that the amount of paper communication to students (notes / handouts etc) is reduced.
A new teaching challenge	
Earth & Environmental Sciences	Run courses that use fewer lectures – i.e. where students work through material designed to teach them certain skills at their own pace.
Negative perceptions of MyUni	
Earth & Environmental Sciences	None.

Pure Mathematics	None. I don't like MyUni. It's a waste of money in present budgetary constraints.
Social Sciences	None. Stop using as soon as it becomes possible for me to.
Use for particular students or courses	
CESGL	It w'd be good for distance teaching of course.
Mixed-category responses	
Molecular & Biomedical Science	Communication, assessment of assignments, reminders to aid student time management, tutorials. [basic and more advanced features]
Agriculture & Wine	Course admin, assessment [course management, more advanced feature]
Mechanical Engineering	Set formative + summative tasks, course materials (eg notes, exercises, etc). Some interactive work if possible. [more advanced and basic features]

Thus, while some respondents would like to use the more basic MyUni features, many respondents were keen to extend their use to the more advanced features MyUni offers, and in some instances also to see the capacity of MyUni extended. It is also clear from comments throughout the questionnaire that many respondents were not fully aware of the current functionality of MyUni. The respondents were generally constrained in their opportunities to extend their use of web-supported teaching by limited time available and their current workloads. It is probably reasonable to assume that most teaching staff feel such constraints.

Recommendations

- 71.1 Provide a greater variety of opportunities for staff development and training in the basic and more advanced features and educational uses of MyUni.
- 71.2 Focus (or give a higher profile to) staff development on ways of using the web to support assessment and assessment management in different fields of study.
- 71.3 Focus, or improve access to, training on features of MyUni that enable assessment and assessment management.
- 71.4 Develop more online resources (such as Java-supported activities) within the University to support interactive exercises, and provide support and training in their use.
- 71.5 Enhance the capacity of MyUni to provide interactive and multimedia materials.

Question 72: What needs to change so that you would use MyUni?

This open-ended question was asked of all respondents. Since many already used MyUni the question was interpreted to include greater or different uses of MyUni.

For each respondent, up to three comments concerning what needed to change so that respondents would use MyUni or use it more or differently were coded. 67 respondents made comments for this question (42.9 per cent), giving a total of 96 responses in the database. The initial categories (see appendix 4) were collapsed into more general categories. Table 72.1 shows the frequency distribution of the 96 responses across the general categories.

Table 72.1 Changes needed so that respondents would use MyUni or use it more or differently

Comment category	Frequency	Per cent
Workload / time	17	17.7
Training / staff development	9	9.4
Skills / knowledge	4	4.2
Support	4	4.2
Policy / management support	4	4.2
Tools / web-based teaching system	23	24.0
Infrastructure	4	4.2
Quality / benefits / outcomes concerns	5	5.2
Students [including 7 relating to infrastructure, access]	9	9.4
Integration with another system	2	2.1
Negative perceptions of web-based teaching	1	1.0
Copyright	2	2.1
Negative comments, general	4	4.2
No change needed	2	2.1
Other	1	1.0
Don't know	5	5.2
Total	96	100.0

When respondents were asked directly about changes they would like to see in MyUni, time and workload issues were still important (17 comments), but there were more comments (n=36; 37.5 per cent of the comments) concerning the MyUni system or other tools and the University infrastructure. These comprised 23 comments indicating that respondents would like 'better' tools or different functionality in MyUni, four comments directly about infrastructure, seven relating to access to infrastructure by students and 2 indicating that MyUni would need to be integrated with their department's system.

Another common issue, as in earlier comments, was concern about lack of skills / knowledge and the need for staff development / training (n=13). Finally, again as in earlier comments, the need for support from IT services, department or University was a commonly expressed concern (n=8), and copyright concerns were raised again (n=2).

Table 72.2 presents a selection of the responses, transcribed from the questionnaires and collected under the general category headings where possible.

Table 72.2 Respondents' comments about what needs to change so that they would use MyUni, or use it more or differently

School/department	Comment
Workload, time	
Asian Studies	It is too time consuming.
Mechanical Engineering	Release time to learn about it and think about ways to use it effectively.
Training, staff development	
Earth & Environmental Sciences	I would use MyUni more if ... I had more training/information on what the good things are about it. Workshops with like-minded colleagues would help.
Dental School	... to increase my usage in improving teaching & learning need more training other than intro modules which I have done eg: more advanced courses. Or I would really like to have workshop etc where other staff from other areas/faculties can show us how they used MyUni.
Adelaide Graduate	I realise that IT runs training sessions but during semester, trying to find a whole morning or a

School of Business	day is just not easy. Perhaps a few shorter in house sessions may be useful.
Skills, knowledge	
Computer Science	I need to know more about it; I am ignorant of what else is going on.
Graduate School of Management	Don't keep it a secret. Tell me about it, what is it, where is it, how do I get into it.
Policy, management support	
Civil & Environmental Engineering	I do use web teaching tools, but I think there needs to be more support & understanding & foresight from management. For example, did anybody do the sums on the increased workload on teaching staff university wide of updating all teaching materials (hardcopy + web, online) of changing the name & logo of the University & changing from departments to schools? This is <u>enormous</u> .
CESGL	Active support of department.
Tools, web-based teaching system	
Mechanical Engineering	Need more function for online assessment.
Agriculture & Wine	Managing course resources in MyUni is overly complicated.
Architecture	Due to obsolete PC – extremely slow & unable to open large files I would like more info on software for 'marking' online submissions ie as if you were putting a red pen on it! ... it was v. difficult to do major revisions of student work (& for the student to see the amend as the teacher's work).
Earth & Environmental Sciences	Spreadsheet editing in online gradebook <u>unacceptably</u> slow!
Earth & Environmental Sciences	I have fully established web-based teaching units. The installation of MyUni is an excellent base for course organisation but is limited for web based teaching material.
Politics	More innovative / effective pedagogical tools.
Asian Studies	Students should be able to put their own assignments on MyUni instead of the lecturer putting each one of them.
Linguistics	I would like records of outgoing emails to students kept on the system (though this is a minor issue – there are ways around it).
Adelaide Graduate School of Business	Anything that makes it complementary to the classroom environment and easier to use.
Mathematics	Assessment – you can't enter results for individuals into the gradebook as a job lot; they have to be entered individually. The folder structure is too vertical. This is bad usability.
Physics	Aspects of the 'Instructor' set-up are frustrating. We need a category for staff to view but not change content. Staff in this category may include: tutors, staff members not actually teaching this course, eg. Those teaching courses which precede or follow it.
Applied Mathematics	More control over access to MyUni. Specifically Honours students who are not enrolled in courses through MyUni must have access to the material. Could the teacher have control over 'non-enrolled' access?
Clinical & Experimental Pharmacology	MyUni's handling of slide formats in the remote classroom is very poor.
Mechanical Engineering	I am using computer projection a lot more for delivery of lectures ... PowerPoint has some limited use but is generally not dynamic enough ... This part is essential to make the use of MyUni worthwhile component from the student's point of view.
Agriculture & Wine	I would like to see MyUni implement some sort of template so repetitive tasks could be done more quickly.
Psychology	Make it more user friendly for administrators. I still get lost every time I want to put something on it!
Infrastructure	
Agriculture & Wine	All current access problems, course merging, understanding that e.g. Waite Campus <u>does</u> exist, <u>does</u> teach out of semester, does teach as many external as internal students – must be fixed.

Architecture	Better interface between MyUni & [Adelaide] Uni online – required separate access.
Chemical Engineering	As an external lecturer I don't have access to MyUni when off campus, yet this is the time that I would normally be putting material onto MyUni. Need to be able to access MyUni w/o dial-up facilities.
–	If web-based teaching is to become more widespread, a significant increase in computer resources needs to be made immediately. This includes both server & terminals.
Adelaide Graduate School of Business	I found MyUni very slow to respond at times and this was discouraging.
Students	
Molecular & Biomedical Science	Better access of all students to computers and more training of students in computer use!
Linguistics	Some students could not log in until week 6.
Integration with another system	
Clinical & Experimental Pharmacology	Ability to import all of the material / features in our current system [to MyUni].
Copyright	
Civil & Environmental Engineering	... <u>copyright</u> issues are almost overwhelming and discourage good teaching practice online.
Agriculture & Wine	Pre 2003 & the requirement to register all copyright material with wherever, it was useful to make copies of lecture notes available online. I will not be doing this in 2003, as I do not have time to inform the copyright office of all the ~200+ sources from which my ~50 hours of lectures derive part of their content.
Negative comments, general	
Earth & Environmental Sciences	NOTHING – don't want to use it at all.
Chemical Engineering	My topics are not suitable for online assessment. Students require mentoring and guidance not rote learning.
Mixed-category responses	
Economics	More easily convert files to pdf; log in more easily (hit enter not have to click on a button); get an <u>up-to-date</u> class list. [tools, infrastructure]
Law	Keeping up with new developments. Courses which take hours are useless. Better to have comprehensive written instructions. Ideal would be to have IT support person down the corridor. [training, support]
Dental School	More time / assistance to prepare material. [time, support]
Public Health	Time to sit down & re-familiarise myself with MyUni capabilities. I need a refresher course. [time, training]

Responses to question 72 reinforced concerns expressed in earlier questions, while suggesting some solutions to these concerns. Changes respondents would like the University to make were largely (n=53 comments; 55.2 per cent) concerned with provision of support – through tool or infrastructure changes, training / staff development or support from management or other areas.

Copyright was again raised as an issue that needs resolving, making a total of six such comments across the questionnaire, from five discipline areas (Agriculture & Wine, Dental School, Public Health, Molecular & Biological Science, Civil & Environmental Engineering). Two of the interviewees also raised copyright as a concern (Medical Education Unit, Agriculture & Wine).

The respondents' comments contained some interesting suggestions about types of staff development, training and materials development support they would like:

Workshops with like-minded colleagues...

I would really like to have workshop etc where other staff from other areas/faculties can show us how they used MyUni.

... trying to find a whole morning or a day [for training] is just not easy. Perhaps a few shorter in house sessions may be useful.

Courses which take hours are useless. Better to have comprehensive written instructions. Ideal would be to have IT support person down the corridor.

I would like to see MyUni implement some sort of template so repetitive tasks could be done more quickly.

Recommendations

- 72.1 Provide a greater variety of support to develop skills and online materials. This could include short, specific workshops, refresher courses before the beginning of semester, sharing of experiences of current staff who have used web-supported teaching, provision of templates, educational design
- 72.2 Integrate IT infrastructure development to the needs of education, including networks, computer suites, staff computers, dialup access.
- 72.3 Increase (or increase the visibility of) management support at the level of department and school for web-supported teaching. Provide structured University-wide support (policy, strategies, advice about effectiveness and rewards) for managers to facilitate web teaching in their departments.

Question 73: Do you have any other comments about web-based learning and teaching at the University of Adelaide?

The last question of the questionnaire asked all respondents for other comments about web-based learning and teaching at the University of Adelaide. For each respondent, up to two 'other' comments were coded. 49 respondents (31.4 per cent) made comments, giving a total of 61 responses in the database. The initial categories (see appendix 4) were collapsed into more general categories. Table 73.1 shows the frequency distribution of the 61 responses across the general categories.

Table 73.1 Other comments about web-based learning and teaching at the University of Adelaide

Comment category	Frequency	Per cent
Workload / time	6	9.8
Training / staff development	1	1.6
Support	4	6.6
Policy / management support	2	3.3
Tools / web-based teaching system	5	8.2
Infrastructure	7	11.5
Quality / benefits / outcomes concerns	10	16.4
Useful for some courses or aspects of courses	4	6.6
Negative comments, general	5	8.2
Positive comments, general	13	21.3
Other	4	6.6
Total	61	100.0

The most prominent comments were positive ones (n=13), and most of these were positive comments about MyUni or the MyUni team (n=9). Concerns about quality of learning also appeared again (n=10), having attracted fewer comments when respondents were concerned

more directly with changes needed and the impact of web-teaching tools on their teaching. The common thread of concern about web-based tools or infrastructure was also evident in this question (n=12), as were concerns about the need for staff development or other support (n=7).

Table 73.2 presents a selection of the responses, transcribed from the questionnaires.

Table 73.2 Selection of ‘other’ comments about web-based learning and teaching at the University of Adelaide

School/department	Comment
Time, workload	
Earth & Environmental Sciences	Most academics are too busy and/or conservative to adopt web-based learning.
Law	Unfortunately the extraordinary amount of time that is required to manage the administrative aspects of internet / MYUNI use for teaching purposes means that I do not have time to respond to your questionnaire.
Mechanical Engineering	I think using web-based teaching resources is exciting but I haven't got time to learn and apply them.
Animal Science	Development prior to use of web-based learning requires funds – cannot teach traditionally concurrent with on-line development.
Law	My experience has been positive despite the extra work involved in the first year
Training, staff development	
Agriculture & Wine	It is hard enough with the minimal training provided by U of A, to stand before 100+ students & make an impression; the use of 'tools' such as WBL should aid in this – but with little or no training in teaching per se, the most developed 'aids' are of limited value.
Support	
Molecular & Biomedical Science	Local computing officers should come back to the departments!
Mechanical Engineering	More support please.
Agriculture & Wine	It will not work unless schools have local IT people to assist staff with software and hardware problems.
Agriculture & Wine	ITS is a power unto itself and grossly out of touch with the needs of staff in the Faculties & Schools.
Tools, web-based teaching system	
Molecular & Biomedical Science	I'm sure each year there will be fewer bugs & more people using the system.
Civil & Environmental Engineering	It would be helpful if one could post several files at once, rather than one-by-one.
Public Health	Web-based tools must enhance ... interaction [between students and academic staff] rather than be a poor substitute for it.
Earth & Environmental Sciences	MyUni response is very slow for entering / viewing marks in spreadsheet view, cumbersome in other areas.
Infrastructure	
Linguistics	Problems arise from PeopleSoft enrolling people who should not be there & failing to enrol people who should be there. It is too difficult to change the class list once the course has begun.
–	For me, the success on MyUni is strongly linked to the availability and quality of AV and computer equipment in lecture theatres.
Electrical & Electronic Engineering	Data intensive courses are unworkable in the current IT infrastructure.
Animal Science	Provision of a fast internet link for staff.
Agriculture & Wine	... access problems for over 1/100 students seriously compromise value, & validity, of whole system.

Humanities	No point in pushing it further if infrastructure required not present for staff using it.
Applied Mathematics	A great idea! It's a real pity our student management system is so useless (perhaps too strong a word, but I can't work with it!).
Quality / benefits / outcomes concerns	
Chemical Engineering	It is not a suitable way of developing student attributes.
Public Health	In its more than 100 years of teaching, the University has been providing excellent learning; computer and web is a recent phenomenon. Therefore, web and computer should not be equated with 'quality teaching'.
Engineering	Needs careful monitoring re impact on quality of learning & teaching
Psychology	I'd like to see empirical evidence that it facilitates learning rather than 'dumbing down' education. Everything has become reduced to a series of 'dot-points' [leading to a] 'Dot-point generation'.
CESGL	Has anyone estimated how much it costs? & whether it's worth the cost?
Politics	I fear the long-term effect on quality of learning if too much emphasis is placed on web-based schemes.
Earth & Environmental Sciences	There needs to be more reliable evaluation of the efficacy of web-based learning.
Social Sciences	My experience is that traditional materials dumped on-line is a serious degradation of quality education. A higher proportion of on-line students fail / withdraw + do badly.
Suitable for some course, some aspects of courses	
Electrical & Electronic Engineering	On-line teaching is no substitute for face-to-face, just an adjunct (of a textbook).
Negative comments, other	
Earth & Environmental Sciences	It is leading to lazy students and lazy teachers. – get them back into the classroom & interacting with real people!!!
Dental School	The University is following the banks by trying to replace humans with IT. This is to the detriment of the University.
Positive comments	
Chemistry	The MyUni team has done a commendable job.
Linguistics	Overall, a great system.
Electrical & Electronic Engineering	My impression is that the MyUni team is doing a very good job.
Mechanical Engineering	Excellent system. Excellent support.
Other	
Clinical & Experimental Pharmacology	Currently, the most use MyUni gets with us is delivering handouts to students and getting assignments in. Self guided tutorials of any type (computer, web based etc.) are poorly used unless assessed in some way.
Mixed-category comments	
Architecture	It takes more time to set up material for online use. Staff need to be given time/funding/support to continually improve material. [time, support]
Elder School of Music	It has enhanced some aspects of teaching, but it's no substitute for human interaction face-to-face! But it has saved a few trees. [suits some aspects, positive comment]
Law	I find the web a very useful tool, but the perception that it takes no time to implement, and that one can utilise it without support (ie admin time etc) is problematic, and unfortunately this year, I'm using it less for that reason. [time, support]
Adelaide Graduate School of Business	While time consuming at the start, I believe the students found it useful. [time, but positive]
English	Very time consuming initially, but very positive outcomes & most students very enthusiastic. [time, but positive outcomes]
Electrical & Electronic Engineering	On-line assessment is unworkable – frustrating – current student quota is a joke (esp when teaching multimedia!!) [tools, infrastructure]

The responses to the last question in the questionnaire show again that many respondents appreciated some of the benefits of web-supported teaching and learning. Their concerns centred around the need for support in a variety of areas, and about quality of teaching and learning. The respondents identified the need for support in terms of staff development and training, improved (or improved access to or understanding of) IT infrastructure, tools and systems, and support from management at top and local levels of the University. The findings indicate that the respondents felt a need for such support. This does not necessarily imply that such support is not available within the University, but it does indicate that some staff are not accessing the support they need, and it may also indicate the need for changes to the support available.

Recommendations

- 73.1 Make more widely known the appreciation among University of Adelaide staff of the benefits of web-supported teaching and learning. Investigate the parameters of this appreciation and focus activities to disseminate the findings specifically where they are likely to be most effective.
- 73.2 Investigate more closely the types and extent of support needed by teaching staff from different disciplines, with different levels of experience of web-supported teaching and at different stages of developing web-based materials for particular courses or programs.
- 73.3 Establish cost-effective means of improving staff access to available support, and of providing more / improved support where necessary.

Summary, section F

Most respondents intend to use MyUni in the future for web-supported teaching, whether or not they have used it in the past. There is also a significant proportion who intend to use other systems, in addition to or instead of MyUni. Commonly, respondents are keen to increase their use of MyUni, to more of the basic features or to more advanced, interactive uses, particularly in relation to assessment and assessment management.

The perceived barriers to their adopting MyUni to a greater extent include concerns about the quality of the learning and teaching possible using web-supported teaching, time and workload pressures, copyright concerns, and various aspects of support.

All open-ended questions

The open-ended questions, for which respondents recorded their comments, yielded a rich source of qualitative data about respondents' perceptions about web-based teaching at the University of Adelaide. Because there was considerable overlap in issues raised by the different questions, when the original code categories were collapsed into fewer categories, the new, collapsed, variables were given the same codes for the same issues. Thus it became possible to gauge (to an extent) the importance of issues by assessing the prevalence of comments about them.

The open-ended questions in the questionnaire were as follows:

- Question 15: Please elaborate on the above [refer questions 13 and 14], or other factors, in relation to your decision about adopting web-based teaching
- Question 16: What needs to change so that you would use web teaching tools?

- Question 23: What are or were your reasons for using web teaching tools? (record key words or phrases)
- Question 42: Please comment on these [questions 26–41] or other impacts of web-based teaching on your students.
- Question 64: Please comment on any of the above as issues for your web-based teaching, and/or on other issues
- Question 71: What teaching or related activities would you like to be able to do with MyUni?
- Question 72: What needs to change so that you would use MyUni?
- Question 73: Do you have any other comments about web-based learning and teaching at the University of Adelaide?

The sum of comments in all categories was calculated using the ‘Multiple response’ function of SPSS. When the responses for all choices for all the open-ended questions were put together it was evident that of the 156 respondents to the questionnaire, 149 of them (95.5 per cent) had made at least one comment.

Categories that were relevant only to one question are not considered here. For the remaining categories, there was a total of 716 responses. The frequencies are presented in table 74.1.

Table 74.1 Comments from all open-ended questions

Comment category	Frequency	Per cent
Time / workload concern	100	14.0
Skills/ knowledge concern	18	2.5
Training / staff development concern	34	4.7
Support concern	24	3.4
Policy / management support concern	13	1.8
Tools/ wbt system concern	39	5.4
Infrastructure / integration concern	40	5.6
Infrastructure, access concerns for students	19	2.7
Quality / benefits / outcomes concerns	42	5.9
Negative perceptions of web based teaching	26	3.6
Other student needs concern	7	1.0
Suitable for some courses / aspects of courses	16	2.2
Suitable for particular student types/ modes / discipline	29	4.1
Copyright concern	5	0.7
Student behaviour concern	7	1.0
Not own decision	37	5.2
No change needed	15	2.1
Time / workload / efficiency / convenience benefit	125	17.5
Benefit of training/ staff development	1	0.1
Benefit of skills / knowledge / experience of using	6	0.8
Benefits for students	48	6.7
Positive perceptions of quality / outcomes of web based learning	4	0.6
Positive comments, general	13	1.8
Other	32	4.5
Don't know	16	2.2
Total	716	100.1

From the percentages it can be seen that there was a more even spread of comments in the various categories than was evident in responses to the individual open-ended questions.

On several dimensions respondents expressed both concerns about and an appreciation of the benefits of web-based teaching or teaching tools.

First, while there were 100 comments expressing concern about time and/or workload in relation to web-based teaching, there were also 125 comments about the time / workload efficiencies web-based teaching could afford. However, closely related to time / workload issues, respondents were also concerned about their levels of skills and knowledge, and about training or staff development (n=52 comments).

Second, while there were 33 comments expressing concern about student needs or behaviour in relation to web-based learning and 42 comments expressing concern about learning outcomes, there were also 52 comments about the perceived positive learning outcomes or other benefits web-based teaching can provide for students. A related area of criticism was evident in 26 comments expressing negative perceptions of web-based teaching.

As has been noted for individual questions, a large area of concern related to support for web-supported teaching – focusing on general or management support (37 comments), staff development / training (34 comments) or IT infrastructure and web tools or systems (98 comments).

Thus many respondents expressed concern about some aspects of web-based learning while at the same time appreciating that there could be benefits. This was also evident in the 45 comments indicating respondents' view that web-based teaching was or could be appropriate for some types of student, mode, discipline, course or aspect of a course, but not for others.

5 Discussion of findings

The detailed findings from the survey and interviews are presented in chapter 4. In this chapter the main findings are discussed.

The detailed findings were presented directly in association with the questions in the questionnaire. This discussion is structured around issues that emerged from the findings as significant factors in relation to the adoption and use of web-supported teaching by University of Adelaide teaching staff.

Can we generalise?

The first issue to address in the discussion is the extent to which the results can be generalised to the University of Adelaide and more broadly. The sample had more women, tenured staff and staff with relatively shorter teaching experience than the University as a whole, but was representative of full or part-time status and faculty.

The sample also comprised mainly users of web teaching tools (77 per cent). The extent to which the respondent profile represents users of web teaching tools at the University or more generally is not known, and could be an area for future research.

In addition, we sought to access a greater proportion of non-users of web teaching tools than was achieved. We found, however, that there was considerable commonality between users and non-users in the concerns and issues that affected their adoption or further use of web-supported teaching, and in their future intentions and the value placed on use of web teaching tools. We found that most non-users were keen to adopt web teaching tools, and that users were keen to extend their use. The two groups had similar issues relating to adoption or extension of use. We consider therefore that the findings from the sample of respondents are likely to be generalisable to the population of teaching staff at the University as a whole, whether or not (for relevant questions) they currently use web-supported teaching.

Gaps between use and value

An important finding from the survey was that there were gaps between the extent to which respondents used computers and the internet in teaching and the extent to which they valued them, their use being lower than the value they placed on them. There was also a gap between how much they knew about MyUni and the extent to which they used it. In addition, almost all respondents intended to use MyUni or other web teaching tools in the future.

These factors combined indicate that there is a large pool of teaching staff who are keen to use web teaching tools, as a first use or to a greater extent, and the reasons for this were explored. Of themselves, however, these findings indicate a need to focus staff development and other support to enable greater and more advanced use of web teaching tools.

The literature reviewed did not reveal studies concerning gaps between use and value of, and desire to use, computers and the internet in teaching. If further research revealed that such gaps were common, this would inform the focus of staff development and other support that could effectively be provided by institutions.

Usage patterns

Among the survey respondents were teaching staff who had not used web teaching tools and a group who had used them. The respondents who had used web teaching tools by and large

had used MyUni, but other tools or systems were also important. This group appeared to be early adopters of web-supported teaching, but their use tended to be mainly for communication and content delivery. There appeared to be lower use of the more interactive, advanced uses of these tools. This accords with the observation by Brennan et al (2001, p. 22) that technology in higher education is being used mainly ‘for searching, for communicating, for providing information, and for processing text in various forms – not for full online delivery’.

These findings suggest the need for support for a variety of levels of web-supported teaching, from support aimed to attract and inform non-users, through staff development and training in basic uses and in the learning and teaching aspects of using web teaching tools, to staff development and training for more advanced, interactive and administrative, uses of web-supported teaching and MyUni.

Future use

While most respondents intended to use MyUni in the future, about one-third intended to use another system in addition to or instead of MyUni. Some of the latter group were critical of the level of support provided for users of ‘parallel’ systems, and of the capacity of the MyUni system to provide the features they valued in their own system and for their system to be integrated with MyUni.

There is an indication from these findings that support for other systems is important, especially in relation to integration. It is also important to explore the features and functionality of other systems used at the University, and to seek to provide such features and functionality through the centrally supported system.

Issues in adoption and further use of web teaching

The literature canvassed for this project commonly raised similar issues in relation to barriers to the adoption of web-supported, web-based or computer-facilitated teaching. Schifter (2000) highlights many of these issues when she summarises her findings on factors that would inhibit both participants and non-participants in asynchronous learning networks from using them. These included:

- concern about quality of courses
- concern about workload
- lack of release time
- lack of technical support

Non-participants were also concerned about lack of training, and participants were also concerned about lack of grants for materials/expenses.

In the findings of the current project users of web-based teaching tools and non-users also raised similar issues in relation to their adoption or further use of web-supported teaching and/or MyUni. These focused on:

- concerns about the quality of teaching and learning using web-based tools
- concerns about time and workload preventing or inhibiting their use
- concerns about lack of skills and knowledge
- concerns about tools and infrastructure
- the need for staff development and training
- the need for other support from managers and the institution

Quality of learning, benefits

While there was considerable overlap in concerns about web-supported teaching between respondents who had used web teaching tools and those who had not, the most commonly expressed factor that would influence non-users' decision about using web teaching tools was concern about quality of teaching and learning (questions 14 and 15). As two respondents expressed the concern:

I am interested in using web-based teaching both for internal and external students – but only where this will enhance the quality of learning and teaching – this is the crux.

I fear the long-term effect on quality of learning if too much emphasis is placed on web-based schemes.

There is considerable evidence in the literature of concern about the effectiveness of online learning (Breen 2001; Salter and Hansen 1999; McNaught et al 2001).

For respondents who had used web teaching tools such concerns were also common. But at the same time this group also appreciated the benefits to themselves and their students that could accrue from using web-supported teaching, especially in relation to the generic skills identified in the University's graduate attributes program.

Easy to deliver / connect to most up to date materials – great range of [course name] materials available on line. Instant communication with whole class.

Increased student confidence, especially if discussion groups are used.

Thus, at the same time, respondents had concerns about the benefits of using web-supported teaching, and they could see benefits for students of what they were already doing.

This points to the need both for greater knowledge and understanding among teaching staff (especially non-users) of the benefits to learning and teaching that can arise from using web-supported teaching, and for the greater development of skills to use the more advanced functions of web teaching to achieve these benefits.

A considerable minority of respondents were not sure whether their web-based teaching had benefited their students, or considered that it had not, indicating a possible need for respondents to use more or more focused student evaluation in their courses. This in turn may indicate a need for the University to raise awareness of the evaluation resources and support available within the University and to provide more focussed or more evident support for its use.

Time and workload

Time and workload have been found to be major inhibitors to the uptake of computer-supported teaching (Oxford Brookes University 2002; Scribbins 2002), or a major factor in its development (Alexander and McKenzie 1998; Gruba 2001).

Time and workload were commonly mentioned as factors that would inhibit adoption or further use of web-supported teaching by the respondents. Indeed, respondents who had used web-based teaching reported that it had taken more time and work on several dimensions including preparation for teaching and of content, course administration and organising the course process and structure:

The web adds a significant additional time overhead to preparation and delivery of a course vis-à-vis class-room.

Preparation time can be off-set to some extent for repeated lectures BUT each year needs a significant re-work of material for some subjects which is more time-consuming than traditional methods.

Skills and knowledge

The literature suggests that lack of knowledge about computer-facilitated learning is a significant factor in non-adoption (Breen 2001; Gruba 2001; McNaught et al 2000; Salter and Hansen 1999).

Concern about lack of skills and knowledge to use web-supported teaching was particularly evident among respondents who had not used web teaching tools.

I see potential for expansion of teaching possibilities but have no idea on how to approach it – Black box!

While such concerns were expressed by both users and non-users of web teaching tools, respondents who had used web teaching tools also reported a mean increase in their IT skills, teaching confidence and pedagogical skills.

It is widely recognised that new skills are needed on the part of teachers for web-supported teaching (Alexander and McKenzie 1998; McNaught et al 2000). Increased skills among the respondents may indicate that this group is well on the way to overcoming lack of skills as a barrier to adoption. Indeed, while concern was expressed by some respondents, lack of skills did not appear to be a major inhibitor of use of web-supported teaching.

Tools and infrastructure

Several aspects of tools and infrastructure were a concern for respondents. There was criticism of the capacity and functionality of MyUni:

The frustrating nature of the repetitive tasks of the MyUni system.
The small reading windows.

Assessment – you can't enter results for individuals into the gradebook as a job lot; they have to be entered individually.
The folder structure is too vertical. This is bad usability.

Some thought the existing infrastructure was inadequate:

If web-based teaching is to become more widespread, a significant increase in computer resources needs to be made immediately. This includes both server & terminals.

The most commonly expressed concerns about the impacts of web-based teaching on students related to tools and infrastructure – access to computers on campus, computer suites, printing costs, slow web access, file size problems.

Better access of all students to computers and more training of students in computer use!

Difficulties with integration with other University systems was also commonly expressed concern:

Problems arise from PeopleSoft enrolling people who should not be there & failing to enrol people who should be there. It is too difficult to change the class list once the course has begun.

Staff development and training

Many of the concerns expressed by respondents indicated a need for staff development and training. Respondents also expressed such a need directly in relation to several questions. Close to one-quarter of respondents (and more than a quarter of non-users) considered that staff development would influence their decision to adopt web-based teaching or use MyUni to a greater extent. The need for ongoing training to use web tools was also expressed:

Obviously the quality of any web-based tool depends on the skills of the teacher & the level of training & exposure they have had previously. Basic training & exposure is one thing, but this needs to be an ongoing thing.

The need for more variety and more flexibility in how staff development and training is organised was also expressed:

Sensitivity in scheduling IT training.

I would use MyUni more if ... I had more training/information on what the good things are about it. Workshops with like-minded colleagues would help.

I would really like to have workshop etc where other staff from other areas/faculties can show us how they used MyUni.

... trying to find a whole morning or a day is just not easy. Perhaps a few shorter in house sessions may be useful.

Support

While many respondents reported a positive impact of some institutional support factors (IT infrastructure, software access, Help Desk support, support from colleagues) on their web-based teaching, many concerns were expressed about the need for more support. Areas of concern were IT support, support from top level or local management, policies, and funding. The following comments indicate the breadth of concerns:

I need IT and admin support because web-based teaching can be more resource intensive.

Policies change so rapidly that the input needed in personal time is not necessarily valuable use of time.

I do use web teaching tools, but I think there needs to be more support & understanding & foresight from management.

Cost is identified in the literature as a barrier to the adoption of web-supported learning and teaching (McNaught et al 2000; Dooley 1999). While the survey did not specifically seek information on cost issues, this factor was mentioned in comments by some respondents. For example:

\$ issues – re staffing levels. Academic staff need more admin support in my area, & release time / staffing for development, research etc.

My experience has been that institutions see web-based learning as a cost reduction strategy. It actually costs more – materials have to be of higher quality, it takes more facilitation time and requires more frequent updating.

6 Conclusions

There needs to be congruence of policy, culture and support factors if significant adoption of CFL [computer-facilitated learning] strategies is to occur. (Behncke & McNaught 2001, p. 56)

Kearns (2003) notes three stages of development in international policies for information and communication technology in education:

- Stage 1 involves ‘rolling out computers’, and some professional development and development of online content.
- Stage 2 involves:
 - mainstreaming and integrating the role of information and communication technologies into education in a more strategic way with more concern for objectives, and with linkages forged to overall education strategies. (Kearns 2003, p. 43)
- Stage 3, which a few countries are currently progressing towards, is a transformative stage which will:
 - ... realise the full potential of information and communication technologies in transforming the way we learn (Kearns 2003, p. 43)

As Kearns points out, Australian systems are currently in stage 2. The University of Adelaide is among those stage-2 systems. The findings of this project have underlined some of the issues that arise in the change process involved. There are challenges for the University to further develop and disseminate a culture, policies and strategies that value web-supported teaching, foster its use and provide support to alleviate time and workload pressures, provide adequate staff development and training to meet all levels and varieties web use in teaching, and to provide ongoing infrastructure and tools development to meet the needs of teaching staff and students.

The transformative stage 3, envisaging the embedding of information and communication technologies in all learning, is some way off for most higher education institutions. Nevertheless, the University of Adelaide has strategies in place to support this transformation, including MyUni, the integration of the student administration system and the learning management system, the LTDU and ITS staff development and training programs, the graduate attributes program and the Digital Resources Management Centre and other initiatives.

An important development would be to introduce strategies that were applicable across the University to embed the development of student graduate attributes into the curriculum and to embed the use of computers and the internet into regular teaching practices.

In Britain the recent government white paper on *The future of higher education* (Secretary of State for Education and Skills 2003) identifies a renewed focus on university teaching as a key element in of reform and makes teaching more central to funding criteria. The Australian Vice-Chancellors’ Committee’s analysis of the white paper summarises some of the means of achieving this refocus:

Financial incentives for good teachers are to be put in place by institutions, and professional standards for teachers in higher education are to be developed (by 2005), with all new staff to receive training by 2006. There will also be higher expectations that staff will undergo continuing professional development. (AVCC 2003)

The University of Adelaide recognises and rewards teaching excellence and the promotion of learning (Learning & Teaching Plan 2000–2002). The project findings indicate that some

teaching staff find it difficult to access adequate support to enable them to achieve teaching excellence in relation to web-supported teaching.

Strategies might be explored to enable better access to the support available and to develop more support mechanisms for web-supported teaching.

Whole-of-organisation approach

This report has raised through the literature and the findings the issue of the direction of policy change and strategies to achieve the desired whole-of-organisation outcomes. Some respondents were concerned that they had had no say in the development and implementation of the MyUni system. Other researchers have noted similar concerns (for example, McNaught et al 2000; McNaught and Kennedy 2000).

Kearns (2003, p. 45) found agreement in international policies concerning the need to move away from 'top down' 'imposed' policies, to 'grassroots strategies' that support local activities to achieve national objectives. The key to making such policies work was termed 'the partnership challenge' (see, for example, Kearns 2003), which is the challenge to link government strategies and community responses.

Another useful term found in Kearns (2003) is that of 'connecting policy instruments'. The University's strategies to achieve policy objectives in teaching and learning may be usefully informed by an examination of these approaches, as recommended by Kearns (2003) in relation to the VET sector.

The scope and development of the policies and professional development to address the particular needs of departments and faculties in relation to web-supported teaching and learning is beyond the scope of this stage of the study. The intended next stage of the study involves conducting focus groups to take the findings and recommendations of this report to departments and faculties, to validate the findings at a local level, and to discuss locally appropriate policies and strategies for staff development and other support. This stage 2 can be modestly undertaken within the Teaching Development Grant budget.

References

- Alexander, S, McKenzie, J, with Geissing, H (1998). *An evaluation of information technology projects for university learning* (executive summary), Committee for University Teaching and Staff Development (CUTSD).
- Allport, C (2001). *Education and new technology*. Third World Congress Education International, Jomtien, Thailand.
- AVCC Committee (2003). *UK higher education white paper – AVCC analysis*, Australian Vice-Chancellors' Committee. [<http://www.avcc.edu.au/news/henews/International/UK.pdf>, accessed February 2003]
- Behncke, L and McNaught, C (2001). 'Seeing the bigger picture: Experiences of employing online learning within TAFE at RMIT'. *Meeting at the Crossroads. Proceedings of the 18th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education*, Melbourne:, Biomedical Multimedia Unit, The University of Melbourne.
- Bell, M, Bush, D, Nicholson, P, O'Brien, D and Tran, T (2002). *Universities online: A survey of online education and services in Australia*. Occasional Paper Series, Higher Education Group, Commonwealth Department of Education, Science and Training.
- Breen, R (2001). *Brookes virtual evaluation, phase 1: Attitudes towards, and experience of, web-based learning amongst Oxford Brookes University staff*. Oxford, Oxford Centre for Staff and Learning Development, Oxford Brookes University.
- Brennan, R, McFadden, M and Law, E (2001). *All that glitters is not gold: Online delivery of education and training: Review of research*. Adelaide, National Centre for Vocational and Education Research, under licence from ANTA.
- Curtain, R (2002). *Online delivery in the vocational education and training sector: Improving cost effectiveness*. Adelaide, National Centre for Vocational and Education Research.
- Deepwell, F and Syson, A (1999). 'Online learning at Coventry University: You can lead a horse to water', *Educational Technology & Society* 2(4): 122-124.
- Dooley, K (1999). 'Towards a holistic model for the diffusion of educational technologies: An integrative review of educational innovation studies.' *Educational Technology & Society* 2(4): 35-45.
- Dooley, L, Metcalf, T and Martinez, A (1999). 'A study of the adoption of computer technology by teachers.' *Educational Technology & Society* 2(4): 107-115.
- Drysdale, J and Creanor, L (1998). 'Leading new teachers to learning technology'. In *Evaluation studies*. Ed. N Mogy, Learning Technology Dissemination Initiative, Heriot-Watt University: 13-18.
- Ellis, A and Phelps, R (1999). 'Staff development for online delivery: A collaborative team-based action learning model'. *Proceedings of the annual conference of the Australasian Society for Computers in Learning in Tertiary Education* (ASCILITE), QUT, Brisbane, Queensland, Australia.
- Felix, U (2002). [reporting a keynote address to be given by Felix at the Languages, Linguistics and Area Studies in Higher Education conference in Manchester, England, June 2002]. *The Australian, Higher Education Supplement*: 50.
- Gruba, P (2001). 'Developing staff it skills in the arts'. *Meeting at the Crossroads*. Proceedings of the 18th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education (ASCILITE), Melbourne: Biomedical Multimedia Unit, The University of Melbourne.
- Guthrie, H (2003). *Online learning: Research readings*, National Centre for Vocational Education Research, Adelaide.
- Hansen, S (2001). 'Power to the people', ownership opportunities with web enabled IT'. *AusWeb 2001*, the seventh Australian world wide web conference, Coffs Harbour.

- Hansen, S and Salter, G (2001). 'The take-up of web technology: Promoting changes in teaching staff and in the institution'. *Flexible Learning for a Flexible Society*, Proceedings of ASET-HERDSA 2000 Conference, Toowoomba, Qld, ASET and HERDSA.
- Harper, B, Hedberg, J, Bennet, S, and Lockyer, L (2000). *The on-line experience: The state of Australian on-line education and training practices: Review of research*, NCVER, Adelaide.
- Holzl, A (1999). 'Flexible learning: Can we really please everyone? Pre-discussion paper.' *Educational Technology & Society* 2(4): 10-16.
- ITS (2002). MyUni forum: Feedback forum on the implementation of MyUni at the university of Adelaide, the University of Adelaide, Adelaide.
- Johnston, S (2001). 'Leading from the front or pushing from behind? Supporting institutional change for flexible learning'. *Flexible Learning for a Flexible Society*, Proceedings of ASET-HERDSA 2000 Conference, Toowoomba, Queensland, ASET and HERDSA.
- Kearns P and Grant, J (2002). *The enabling pillars: Learning, technology, community, partnership: A report on Australian policies for information and communication technologies in education and training*. Canberra, Department of Education, Science and Training.
- Kearns, P (2003). 'The partnership challenge: Some international perspectives on policy for information and communication technology in education'. In *Online learning: Research findings*. Ed. H Guthrie. Adelaide, National Centre for Vocational Education Research: 41-52.
- Lines, R (2000). 'Teaching with technology: The space between strategy and outcomes.' *ultiBASE archive*, July.
- McNaught, C (2001). 'Quality assurance for online courses: From policy to process to improvement?' *Meeting at the Crossroads*. Proceedings of the 18th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education, Melbourne: Biomedical Multimedia Unit, The University of Melbourne.
- McNaught, C and Kennedy, P (2000). 'Learning technology mentors: Bottom-up action through top-down investment'. *The Technology Source*, November/December.
- McNaught, C, Phillips, Rob, Rossiter, D and Winn, J (2000). *Developing a framework for a useable and useful inventory of computer-facilitated learning and support materials in Australian universities*. Canberra, Evaluations and Investigations Programme Report 99/11, Higher Education Division, Department of Education, Training and Youth Affairs.
- O'Hagan, C (1999). 'Embedding ubiquitous use of educational technology: Is it possible, do we want it and, if so, how do we achieve it?' *Educational Technology & Society* 2(4): 19-22.
- Oxford Brookes University (2002). *Brookes virtual evaluation: Phase 2 report*, Oxford Centre for Staff and Learning Development, Oxford Brookes University.
- Radloff, A (2001). 'Getting online: The challenges for academic staff and institutional leaders, summary paper'. *Meeting at the Crossroads*, 18th annual conference of the Australasian Society for Computers in Learning in Tertiary Education (ASCILITE), The University of Melbourne, Victoria, Australia.
- Rumble, G (2001). 'The costs and costing of networked learning.' *Journal of Asynchronous Learning Networks* 5(2): 75-96.
- Salter, G, and Hansen, S (1999). 'Modelling new skills for on-line teaching. Responding to diversity'. *Proceedings of the 16th annual Australian Society for Computers in Learning in Tertiary Education '99 conference*, Queensland University of Technology, Brisbane.
- Schifter, CC (2000). 'Faculty participation in asynchronous learning networks: A case study of motivating and inhibiting factors'. *Journal of Asynchronous Learning Networks* 4(1): 15-22.
- Scribbins, J (2002). *The National Learning Network Final report to the Evaluation Steering Group and the NLN Programme Board by the Learning and Skills Development Agency (LSDA) and Sheffield Hallam University*, Learning and Skills Council.
- Shannon, S and McHolm, D (2002). 'Evaluating online learning experiences at Adelaide University for staff and students in 2001', in *Spheres of Influence: Ventures and Visions in Educational Development*, Proceedings of the 4th World Conference of the International Consortium for Educational Development (ICED) Edited by Allan Goody and Deborah Ingram, Perth, WA, 3-6 July 2002.

- Spotts, T (1999). 'Discriminating factors in faculty use of instructional technology in higher education'. *Educational Technology & Society* 2(4): 92-99.
- SPSS Inc 2002, Statistical Package for the Social Sciences, version 11.5.0 [statistical software package], SPSS Inc. Chicago, Illinois.
- University of Adelaide 2001, *Project PLATO preliminary report*, October 2001, University of Adelaide, Adelaide.
- University of Illinois (1999). *Teaching at an internet distance: The pedagogy of online teaching and learning*: The report of a 1998-1999 University of Illinois faculty seminar, University of Illinois.

Appendices

Appendix 1 Interview guide

Interviewer [Name, Location]	
Project title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002–2003	
Interviewee [Name]	Contact [Name: Position: Contact details: Location:]
Interview on: [Date]	Where [Location]
Main points: Background	
How online technology is used	
Factors identified	
What needs to change	
Conclusions	
Case study – how MyUni could be used and is not being used at the moment	

Appendix 2 Questionnaire and cover memo

MEMORANDUM

TO ALL UNIVERSITY OF ADELAIDE TEACHING STAFF

FROM SUSAN SHANNON
RECIPIENT OF LEARNING & TEACHING DEVELOPMENT
GRANT 2002-03

SUBJECT WEB LEARNING AND TEACHING SURVEY

DATE 4 FEBRUARY 2003

The DVC (E) & P has granted a University of Adelaide Learning and Teaching Development Grant to support the collection of information about staff experience of and attitudes to web-based learning tools. We are very interested in the views and experiences of teaching staff who do not use web-based learning tools, as well as those who do.

The project will report to the DVC (E) & P with the aim of informing University policy concerning online learning and teaching.

Please help us by completing the enclosed questionnaire.

I urge you to print, complete and return this questionnaire by Friday 21 February 2003 to Susan Shannon, c/- LTDU, Level 1 Schulz Building, North Terrace Campus.

Your responses will be treated in the strictest confidence. Your identity will never be linked to your responses, and no personal details will be revealed.

For more information please contact Susan Shannon (phone 8303 5490 or email susan.shannon@adelaide.edu.au).

Thank you.

Dr Susan Shannon

University of Adelaide

Web learning & teaching survey



Have a say about web learning and MyUni

This questionnaire is being sent to all University of Adelaide staff who generally have teaching responsibilities. The survey is part of a University Learning and Teaching Development grant project which aims to collect information about staff experience of web-based learning tools. The project will report to the DVC (E) & P with the aim of informing University policy concerning online learning and teaching. Please help us by completing this questionnaire.

Your responses will be treated in the strictest confidence. Your identity will never be linked to your responses, and no personal details will be revealed. For more information please contact Dr Susan Shannon (8303 5490 or susan.shannon@adelaide.edu.au).

Please send the completed questionnaire to Susan Shannon, c/- LTDU, Schulz Building, North Terrace Campus by **Friday 21 February 2003**.

A: About you

1. In which Department or School do you teach?									
2. Do you teach: (tick one or two boxes)	<input type="checkbox"/> Undergraduate courses						<input type="checkbox"/> Postgraduate courses		
3. How many years ago did you start teaching at university? (tick one)	<input type="checkbox"/> <1	<input type="checkbox"/> 1-5	<input type="checkbox"/> 6-10	<input type="checkbox"/> 11-15	<input type="checkbox"/> >15				
4. Your sex:	<input type="checkbox"/> Male						<input type="checkbox"/> Female		
5. Is your position at the University of Adelaide:	<input type="checkbox"/> Full time				<input type="checkbox"/> Fractional				
	<input type="checkbox"/> Tenured	<input type="checkbox"/> Tenure track	<input type="checkbox"/> Contract	<input type="checkbox"/> Casual					
6. How much do you use computers in your teaching?	Nil 1	2	3	4	5	6	A lot 7	N/A	
7. How much do you use internet resources in your teaching?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. To what extent have you ever used web-based teaching?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. To what extent have you ever used a web teaching platform (e.g. MyUni, Blackboard or similar platform)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. What value do you place on computers in HE teaching?	None 1	2	3	4	5	6	Very high 7	N/A	
11. What value do you place on web teaching tools in HE teaching?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. How much do you know about MyUni?	Nothing 1	2	3	4	5	6	A lot 7	N/A	

B: If you have never used web-based teaching tools (if you have, please go to section C)

<p>13. Would you like to use web-based teaching tools?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Don't know</p>
<p>14. Which of the following factors would impact upon your decision about adopting web-based teaching? (tick one or more boxes)</p>	<p> <input type="checkbox"/> Personal motivation <input type="checkbox"/> Your conception of teaching at university <input type="checkbox"/> Staff development <input type="checkbox"/> Quality of learning and teaching <input type="checkbox"/> University decision making <input type="checkbox"/> Technology issues <input type="checkbox"/> Course administration <input type="checkbox"/> Your own skills <input type="checkbox"/> IT training <input type="checkbox"/> Work issues <input type="checkbox"/> Funds <input type="checkbox"/> Other (please specify) </p>
<p>15. Please elaborate on the above, or other factors in relation to your decision about adopting web-based teaching</p>	
<p>16. What needs to change so that you would use web teaching tools?</p>	

If you have never used web-based teaching tools please go to section F.

C: If you have used web teaching tools (please complete sections C to F)

<p>17. Have you: (tick one or more boxes)</p>	<p><input type="checkbox"/> Adopted web teaching tools but not MyUni <input type="checkbox"/> Adopted MyUni</p> <p><input type="checkbox"/> Tried and stopped using web teaching tools <input type="checkbox"/> Tried and stopped using MyUni</p> <p><input type="checkbox"/> Other (please specify)</p>																
<p>18. Where have you used web teaching tools? (tick one or two boxes)</p>	<p><input type="checkbox"/> The University of Adelaide <input type="checkbox"/> Other (please list)</p>																
<p>19. When have you used web teaching tools? (tick one or more boxes)</p>	<table border="0"> <tr> <td>1995</td> <td>1996</td> <td>1997</td> <td>1998</td> <td>1999</td> <td>2000</td> <td>2001</td> <td>2002</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>	1995	1996	1997	1998	1999	2000	2001	2002	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1995	1996	1997	1998	1999	2000	2001	2002										
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>										
<p>20. Which web teaching tools have you used? (tick one or more boxes)</p>	<p><input type="checkbox"/> Adelaide University Online <input type="checkbox"/> Department provided system <input type="checkbox"/> Own web pages</p> <p><input type="checkbox"/> Faculty provided system <input type="checkbox"/> MyUni <input type="checkbox"/> Other (please specify)</p>																
<p>21. For which teaching activities have you used web teaching tools? (please number boxes according to extent of use: 1 = most use)</p>	<p><input type="checkbox"/> Communication <input type="checkbox"/> Assessment management <input type="checkbox"/> Announcements</p> <p><input type="checkbox"/> Content delivery – whole lectures or topics <input type="checkbox"/> Groups management <input type="checkbox"/> Other (please specify)</p> <p><input type="checkbox"/> Content delivery – lecture handouts <input type="checkbox"/> Administration of course</p>																
<p>22. Which students have you taught using the web? (tick one or more boxes)</p>	<p><input type="checkbox"/> Postgraduate coursework <input type="checkbox"/> Undergraduate coursework</p> <p><input type="checkbox"/> Other (please specify)</p>																
<p>23. What are or were your reasons for using web teaching tools? (record key words or phrases)</p>																	
<p>24. If relevant (relates to question 17), why have you used web teaching tools but not MyUni, tried and stopped using web teaching tools, or tried and stopped using MyUni?</p>																	

D: Learning outcomes and values

25. Has web-based teaching benefited your students?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not sure							
Rate the impact of web-based teaching on your students':	Very decreased	1	2	3	4	5	6	7	Very increased	N/A
26. Attendance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. Summative grades	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Continuance in course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Continuance in program	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Use of self-directed formative assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Communication skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Collaboration and working in groups	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
33. Time management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
34. Independent learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
35. IT skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
36. Enjoyment while learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
37. Discipline area knowledge base	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
38. Critical thinking and problem solving skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
39. Lifelong learning orientation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
40. Education linking with future and current employment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
41. Which of the following equity and access issues have impacted on your students? (tick one or more boxes)	<input type="checkbox"/> Computer access on campus <input type="checkbox"/> Computer access at term-time address <input type="checkbox"/> Web access <input type="checkbox"/> Cost of web access <input type="checkbox"/> Disability access	<input type="checkbox"/> Lack of family or friend who can help with IT issues <input type="checkbox"/> Printing access <input type="checkbox"/> Printing cost <input type="checkbox"/> Other (please specify)								
42. Please comment on these or other impacts of web-based teaching on your students										

E: Teaching outcomes and values

43. Did web-based teaching benefit your teaching or other activities?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Not sure																						
44. If you answered 'Yes' to the previous question, was that benefit displayed: (tick one or more boxes)	<input type="checkbox"/> In all courses	<input type="checkbox"/> Not initially	<input type="checkbox"/> With some types of students (please specify)																						
	<input type="checkbox"/> In some courses	<input type="checkbox"/> As I became more experienced	<input type="checkbox"/> Other (please specify)																						
Rate the impact of web-based teaching on your teaching and other activities:	<table border="0" style="width: 100%; text-align: center;"> <tr> <td>Very decreased</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Very increased</td> <td></td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>N/A</td> <td></td> </tr> </table>							Very decreased							Very increased		1	2	3	4	5	6	7	N/A	
Very decreased							Very increased																		
1	2	3	4	5	6	7	N/A																		
45. Time on preparation of teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
46. Time on delivery of teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
47. Time on administration of course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
48. Time on assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
49. Time on communicating with students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
50. Time on communicating with peers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
51. Time on communicating with University administration regarding the course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
52. Work on preparation and delivery of content	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
53. Work on organisation of course process and structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
54. Work on administration of online course	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
55. Communication with students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
56. Extent of re-evaluation of teaching aims	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
57. Teaching confidence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
58. Pedagogical skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
59. IT skills	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
60. Use of online assignment submission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
61. Use of online assignment assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
62. Use of online assignment feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	
63. Use of online assessment grades visible to students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>																	

64. Please comment on any of the above as issues for your web-based teaching, and/or on other issues									
Rate the impact of the following on your web-based teaching:	Very negative			No impact				Very positive	
65. IT infrastructure	1	2	3	4	5	6	7	N/A	
66. Software access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
67. Help Desk support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. Colleague support	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

F: Your future intentions about web teaching tools at the University of Adelaide (for all respondents)

69. Will you:	<input type="checkbox"/> Never use web teaching tools <input type="checkbox"/> Use other web teaching tools <input type="checkbox"/> Use MyUni <input type="checkbox"/> Other (please specify)
70. Which of the following factors impact upon your decision about using, not using or continuing to use MyUni? (tick one or more boxes)	<input type="checkbox"/> Personal motivation <input type="checkbox"/> Teaching at university <input type="checkbox"/> Staff development <input type="checkbox"/> Quality of learning and teaching <input type="checkbox"/> University decision making <input type="checkbox"/> Technology issues <input type="checkbox"/> Course administration <input type="checkbox"/> Own skills <input type="checkbox"/> IT training <input type="checkbox"/> Work issues <input type="checkbox"/> Funds <input type="checkbox"/> Other (please specify)
71. What teaching or related activities would you like to be able to do with MyUni?	
72. What needs to change so that you would use MyUni?	
73. Do you have any other comments about web-based learning and teaching at the University of Adelaide?	

Thank you for completing the questionnaire. Please put your questionnaire in an internal mail envelope and send to Susan Shannon, c/- LTDU, Schulz Building, North Terrace Campus.

Please return your questionnaire by Friday 21 February 2003

Appendix 3 Transcribed interviews

Interviews were carried out with 12 staff in positions of influence in relation to the use of IT in teaching in their discipline area. The following staff gave permission for their names to be included in the report.

1. Dr Fred Brown, Associate Dean (IT), Engineering, Maths and Computer Science
2. Mr Ian Cooper, Agricultural Science
3. Associate Professor Peter Devitt, Department of Surgery, Medical School
4. Dr Michael Gerrard, School of Commerce, Faculty IT Committee
5. Peter Hawryszkiewicz, Computer Support (IPD Systems Pty Ltd), School of Architecture, Landscape Architecture and Urban Design
6. Dr Patrick James, Deputy Head, Geology & Geophysics
7. Mr Eddie Palmer, IT Manager in charge of Curriculum, and Mr Mark Bailye, Curriculum Development Officer, Medical Education Unit, School of Medicine
8. Laszlo Perger, IT Manager, Colgate Australian Clinical Dental Research Centre, Faculty of Health Sciences
9. Mr Tony Ryan, Executive Producer, Radio Adelaide
10. Dr Jeff Schwartz, Senior Lecturer, Physiology, Medical School

The two respondents from whom permission was not received to include names or the transcript were from Health Sciences and the Graduate School of Business.

Notes from the interviews were transcribed and then sent to the interviewees for approval and possible amendment, with a request to include the transcript in an appendix of the report.

Interviews for which this permission has been received are included here.

1 Dr Fred Brown

<p>Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide</p>	
<p>Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002–2003</p>	
<p>Interviewee/s Dr Fred Brown (FB)</p>	<p>Contact Dr Fred Brown Senior Lecturer Associate Dean, (IT), Engineering, Maths and Computer Science Dept of Computer Science Room 1045 Plaza Building Tel: 34481 Fax: 8303 6188 Email: alfred.brown@adelaide.edu.au</p>
<p>Interview on 24-09-02</p>	<p>Where Room 1045 Plaza Building Dept of Computer Science</p>
<p>Main points: background Computer Science has an independent [online] system which pre-dated BlackBoard. (FB does not know to what extent MyUni is being used in Maths or Engineering). The Department has 50 servers, 250 desktops+ staff desktops and specialised computers and applications thereon for research. Their Singapore-based NAAEC has a Sun server and 50 desktops which are also (remotely) managed from the North Terrace Department. This intensive demand stretches management to the fullest. They have 380 EFTSUs in 2002 with 21 FTE staff and of those 17 are full-time Lecturer A and above. They have their own Computer Science course delivery site for each course – standardised and using a fairly standard format with a side bar. They do the programming and have developed the products themselves.</p> <p><i>Features of own system:</i></p> <ul style="list-style-type: none"> • Introduction: Staff details, links to the real calendar • Handout: Lecture 1, including how assessment will happen over the semester • Schedule: Key core material in Excel spreadsheet – 6 columns <ul style="list-style-type: none"> ○ Column 1: Lecture number ○ Column 2: Content (hypertext link to lecture) ○ Column 3: Lecturer initials ○ Column 4: Date ○ Column 5: Tutorial (hypertext link to tutorial) ○ Column 6: Assignment (hypertext link to assignment) and assignment deadline • Course materials: Lectures, assessment and assignments, timesheets (part of the set of tools for project management keeping track of time) • Email groups • Student marks system: Staff logs on to secure connection to a web server which is independent of PeopleSoft. Not reliant upon Windows. Extracts data from PeopleSoft daily and automatically ftps it to the server. All data is in a database, where it cannot be lost. The system is prepared as an interface so that students can only see their own marks. • Bulletin board: through hypermail; a feature is that it emails directly to the lecturer plus to the BB. <p><i>HelpDesk:</i> Students receive help from LCOs, not MyUni HelpDesk or the ITS HelpDesk. The principal helper for the student marks system is a PhD student competent, really on top of the stuff, has technical depth, and youthful energy, and is speedy.</p> <p><i>Staff training:</i> Staff are stable, and new staff are in a team teaching situation. There is a template available for reuse.</p> <p><i>400 students in first-year CS.</i> Lectures are prepared and put online in advance for printing by students.</p>	

How online technology is used

Their own department website has been developed and is used in preference to MyUni – on MyUni student portals a permanent notice has been installed which redirects students to ‘where the ‘real’ material is’. This permanent Announcement is the absolute maximum they are prepared to do with MyUni at this stage.

Factors identified

1. Lack of secure connection – it is not secure – between ‘here’ and the MyUni server there is nothing which encrypts passwords. It is plain text, not encrypted.
2. This is a serious issue – especially if staff use the same passwords for their different ITS accounts, some of which give access to student records.
 - CS takes the view that trying to convince people to fix this is time wasted.
 - CS use a different username and password for their own systems from that used for the MyUni logon.
 - All MyUni stuff should be secure.
3. The person organising the course sites is not enrolled as a teacher in other people’s MyUni sites through PeopleSoft.
 - Cannot see what anyone else is doing
 - Most academics won’t even look at it themselves.
 - All course entry work, and cross-checking, is done by Dr Fred Brown for every CS course.
 - All students and staff can see all CS courses on the CS site.
4. FB is unsure if the functionality they have developed in the Schedule section of their website (with links to Lectures, Tutorials and Assignments sections) is easy to replicate in MyUni. Embedded hypertext links are not well supported in MyUni, they believe.
5. The Student Marks functionality is not replicated in MyUni and is beyond the capability of PeopleSoft. (They believe that their developed marks system should be available to the whole University.) The Student Marks functionality serves their purpose and with a small adjustment will be available to students for their own personal view.
6. An archiving and backup strategy is in place. New offerings of old courses are easily handled.
7. ‘No operating system dependent ‘stuff’ – all on www browser, and using electronic mail’, ‘Can do it from anywhere on the planet’.
8. Unwanted announcements appearing where and when they are not wanted is ‘a really annoying thing about Blackboard’.
9. They have a pre-existing well-functioning, integrated system run off their own server using a local file system. No special software is required to maintain the CS site.

What needs to change

CS will not go to MyUni whilst all the listed issues are in place.

Conclusions

Integrated, well-managed system – ‘will not go to MyUni’.

Their impression is that the evolving of embedded links in the CS system’s Schedule feature is not replicated easily in MyUni.

Their site development has made a good fit between how information needs to be presented and how it appears.

Case study – how MyUni could be used and is not being used at the moment

Their parallel system largely, but not wholly in a number of key areas, replicates the functionality of MyUni. A whole-scale re-conception of how information is delivered would have to be made as well as all other listed issues fully resolved before CS would contemplate moving to MyUni.

2 Mr Ian Cooper

Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide	
Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002–2003	
Interviewee/s Mr Ian Cooper Agronomy and Farming Systems – Roseworthy	Contact Ian Cooper ⁵ Senior Lecturer Agronomy and Farming Systems – Roseworthy Location: RW Bld F3/G06a Agronomy & Farming Systems. Tel: 37865 Fax: 8303 7979 Email: ian.cooper@adelaide.edu.au
Interview on 01-10-02 (telephone interview)	Where Room 101f Schulz Building
Main points: Background Ian himself was an early adopter of online learning <ul style="list-style-type: none"> • He started with simple web pages • Dept was ‘open to the world’ • He has current html skills • Before Roseworthy College became a part of Adelaide Uni he was looking after the Department’s use of computer applications in learning. They had labs of Apple 2e computers and used spreadsheets in the early 1980s. They mounted courses for farmers on ‘using computers in Farm Management’ using stand-alone spreadsheet programs. Dept of Agronomy and Farming Systems moved to MyUni in 2001: <ul style="list-style-type: none"> • As they were looking for more security particularly in relation to teaching materials and copyright restrictions on viewer access. • For ease of communication with students through Group Pages and an ability to set up groups for better communication. They have still got three websites outside the MyUni environment – these open sites are useful to the department – as a marketing tool for enquiries from overseas students and postgraduates, and for academic staff looking for sabbaticals. The three websites* outside MyUni comprise: <ol style="list-style-type: none"> 1. a series of bookmarked pages; 2. an online glossary of agriculture and Australian farm management terms; 3. a bibliography of farm management research and publications – nested pages with an author list and a built-in search engine. [In preparation for this interview Ian had also interviewed two of his colleagues.] Colleague 1: <ul style="list-style-type: none"> • Very, very good teacher and researcher who believes that ‘the more you give, the more they (students) want’. • Cannot see the additional <i>value</i> in online learning. • Limits his endeavours online to giving students links to look at (www pages). • Ian’s perception is that he shies from the online environment – with issues being: <ul style="list-style-type: none"> ○ ease of use ○ perception of time • He does adapt well to change and prides himself on keeping up-to-date. 	

5 In June 2003, Ian Cooper had joined the Soil & Land Systems discipline of the School of Earth & Environmental Sciences.

<ul style="list-style-type: none"> • He believes that in providing a service to students that it ‘doesn’t hurt them to do it themselves. Why make life so easy for them?’ <p>Colleague 2:</p> <ul style="list-style-type: none"> • Couldn’t perceive the value of the web over traditional teaching. • Did not have the tools either at Roseworthy or in own computer to get material to pdf files. How expensive would it be to get full copies of Acrobat for teachers at Roseworthy, Ian ponders. • Finding time and impetus to do extra training is difficult; eg, to give PowerPoints in class and to get image size and resolution down to PowerPoint image size. <p>Assistance for staff at Roseworthy Department of Agronomy and Farming Systems is given by Paul Harris – Lecturer in Engineering – and Ian Cooper. They are the 2 academics called on to help with problems.</p> <p>They have retained an LCO at Roseworthy. Need to have a person on the ground there for students and staff.</p>
<p>How online technology is used</p> <ol style="list-style-type: none"> 1. Ian is currently using MyUni to deliver course work but not using all its functionality – eg, Discussion Board is not used but other colleagues have utilised it. Has utilised the online Gradebook – has weighting values but requires manually entering the data as cannot export from XL Spreadsheet to Gradebook or vice-versa. eg Rural Business Planning A (Level 1) and Business Management for Agricultural Science (Levels 3 / 4). 2. Department has its own web page. 3. Their 3* open ‘marketing’ and ‘management support’ sites outside MyUni
<p>Factors identified</p> <ol style="list-style-type: none"> 1. Early adopter of online learning. 2. Looking for more security (particularly in relation to teaching materials and copyright restrictions on viewer access). 3. Wanted improved ease of communication with students through Group Pages and an ability to set up groups for better communication and therefore moved to MyUni in 2001 4. Also wanted to retain a presence outside MyUni for marketing to students and academics. 5. MyUni glitches: <ol style="list-style-type: none"> (1) Online Gradebook: when students withdraw – it lists people in the course with a symbol next to their name but doesn’t remove them from the Gradebook. And they can still make contributions to the Discussion Board. (2) Font size is too small from someone of advanced years when authoring emails through MyUni. <p>Ian has, in migrating coursework to MyUni still retained his HTML skills and uses web pages - through creating the teaching for a week as a web page, which is then filed as a MyUni Course Document as a zipped file. When opened it contains PowerPoints and presentations; links to download the PowerPoint; links to pdf documents of notes and readings; links to spreadsheets.</p> <p>The benefit of HTML is that it presents the page ‘how I want it and I am not limited by BlackBoard in how I arrange the thing. Whilst the Blackboard presentation is ‘Fine’ ‘there is a limit to what you can change’.</p> <p>Colleagues in Agronomy and Farming Systems have taken to it to some degree but ask:</p> <ul style="list-style-type: none"> • Where is the time coming from to do ‘all this stuff’? • The academic outlook on teaching and where it stands in the University’s priorities
<p>What needs to change</p> <p>The identified glitches in MyUni</p> <p>Support for academic staff training needs at Roseworthy</p> <p>Support for software at Roseworthy</p>
<p>Conclusions</p> <p>Colleagues who are not users do not have the background in web development and online delivery that Ian has. He also has adequate skills and software (all his own) to deliver courses through MyUni.</p> <p>They are wary of the time spent in training and developing course sites, for what they see as not necessarily beneficial outcomes to students who may become dependent on someone else (the teacher) finding everything for them. Also, they are wary of the academic outlook on teaching – where it stands in priorities. Further, they are hanging back looking for evidence of the additional value provided to students in the online environment over traditional teaching.</p>

Case study – how MyUni could be used and is not being used at the moment
Nil

3 Associate Professor Peter Devitt

Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide	
Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002–2003	
Interviewee/s Associate Professor Peter Devitt Associate Professor of Surgery	Contact Associate Professor Peter Devitt Department of Surgery RAH Faculty of Health Sciences 5 th Floor Eleanor Harrald Building Frome Road University of Adelaide Adelaide 5005 Tel: 8222 5144 Fax: 8222 5896 Email: peter.devitt@adelaide.edu.au
Interview on 05-09-02	Where 5 th Floor Eleanor Harrald Building
Main points: Background Online learning: <ul style="list-style-type: none"> • Medicine are early adopters – way ahead of MyUni • Current system used by Medicine – Meets our needs • We developed it over 6–8 years – through steady progress • Medical Education Unit (MEU) employs 2 staff to ‘splat stuff’ into the computer – Mark Bailye and Eddy Palmer In Medicine, the Curriculum Committee decides: <ul style="list-style-type: none"> • the philosophy of teaching • what teaching will consist of Online extent <ul style="list-style-type: none"> • Extremely little is online • Medicine is still an art which involves interactions with patients – interactions which are not replicable online • Attitudes and competence cannot be taught online • Role-modelling in front of a computer is very difficult • Those are the skills which the electronic media hasn’t got • Taking a patient history cannot be taught online 	
How online technology is used Off campus learning: <ol style="list-style-type: none"> 1. To deliver content to distant locations: Spencer Gulf Rural Health School: When students are on rotation to Adelaide University Rural Clinical School they feel disadvantaged if they miss out on a lecture or a tutorial 2. To address students’ anxieties 3. At least to try to reassure them that they haven’t been forgotten 	
Factors identified Denied funding for IT <ul style="list-style-type: none"> • [We are] subservient to what the University decides we should have • Not consulted 	

- Just 'Here's MyUni'
- No one ever asked 'What are you doing? How can we help you?' We may never be supported for the online learning programs we require.

Conceptions of learning

- No one has ever shown that online delivery has produced any better skills than conventional teaching – evidence-based research findings are required.
- It's OK if you cannot deliver teaching any other way.

Online presence

- Many people are putting online what they delivered in lectures (PowerPoints and Lectures) principally through MEU

Culture of medicine as a discipline issues

- Not solely a case of learning skills but demeanour, effort and attitude, which are learnt through personal interaction, not online.
- How the computer stacks up is an issue as most clinicians still believe that the essentials of medicine are learnt in real life.
- These are issues of knowledge, understanding and enquiry.
- Content only is delivered well online.

What needs to change

Centralisation of ITS which does not consult, which does not inform itself about the needs in IT and learning electronically of the parts of the University it seeks to serve. An attitude that all learning can be facilitated online. Medicine is not best facilitated online.

Conclusions

A lot of time and effort has been spent on the evaluation of the introduction of online learning and electronic learning into the Medicine curriculum. It has been carefully evaluated, and published. The recognition and support for this venture has been zero. This lack of support then cuts across research and education.

Case study – how MyUni could be used and is not being used at the moment

* See Eddy Palmer & Mark Bailie interview. Parallel system of delivering learning online through MEU-made LMS replicates almost all functionality of MyUni. Interestingly the conceptions of learning embodied in that system, as recursive containers (eg a Calendar system which ages), are not replicated in that exact way in MyUni.

4 Dr Michael Gerrard

Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide	
Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002-2003	
Interviewee/s Dr Michael Gerrard (MG)	Contact Dr Michael Gerrard Position: Senior Lecturer Commerce Location: 233 Nth Tc/214 Security Hs Tel:8 303 4509 Fax: 8303 4368 Email: mgerrard@economics.adelaide.edu.au
Interview on 15-10-02	Where Room 214, 2nd floor, Security House
Main points: Background 1. MG is on the Faculty IT Committee MG is convenor (past) of the Commerce and Economics Joint IT Committee ‘in that role I led my colleagues in Commerce (even in the Joint Committee I had paid not a lot of attention to whether Eco adopted MyUni)’ 2. Commerce has had a School-wide adoption of MyUni As a teacher background Teaching Internet Commerce Course– creating the virtual storefront and some aspects of computer access in the world of commerce: MyUni adoption as an issue does cut directly across what I teach. Commerce background to online learning: School-wide adoption for online learning was promoted in 2002 (Semester 2) Prior to 2000 adoption was haphazard and evolutionary: it was left to individual lecturers or lecturers in charge to adopt what they wanted. In 2000 4/5 Commerce staff used the supplied U of A Online Adelaide teaching aids. Prior to that, 4 or 5 years ago, the LCO and a few early adopter staff created (through a template) a means of browsing course material – with PowerPoints stored on a local web server and delivered through web pages. No staff felt that they were being ambitious and <ul style="list-style-type: none"> • no interactivity and • no student usage It was passive course material delivered electronically By and large we were happy with this – it was not fancy but we didn’t need anything fancy – it fitted well with the discipline area needs. So why the changes? In 2001 some staff became aware of Project Plato. Our view was: 1. We were too busy; 2. There was no benefit in getting involved too early. In Semester 2 2001, while on study leave, MG: <ul style="list-style-type: none"> • Attended training – used a course from Semester1 and uploaded it to MyUni • Decided that if it was the institutional direction we should be following it Primary benefit of Blackboard (MyUni) <ol style="list-style-type: none"> 1. Public, institutional support evident whereas Online Adelaide was running on a shoestring with no resources - No money was flowing into Online Adelaide 2. DVC(E) and VC and Head of ITS (Scott Snyder) were committed to it at a Senior Management level. 3. There are minor in-School issues/decisions relating to off-campus teaching at SIT [Sepang Institute of Technology] in Malaysia 	

- teaching Level 1 and 2 courses at SIT to 20–80 students with a local lecturer-in-charge who has access to a coordinator here [in Adelaide] – the exam assessment is run from here but the materials and assignments and exam are sat at SIT. The lecturer at SIT has access online to all teaching materials.
- Online Adelaide learning aids did not support this distributed learning but the School's own system did.

Issues

MyUni is still struggling with the requirements of Commerce, in particular at the SIT:

1. NAMING: Different course offering at SIT and North Tce – both with non-user friendly names
2. ENROLMENT: Administrative delays in enrolment through PeopleSoft
3. ADMIN: Lecturers from SIT cannot use it: they are not Adel Uni staff and not students.
Contract lecturers : have no access – paid as casual employees (using own tax invoices from their firms) and even though core course lecturers.

These were issues which were hidden at the time of making decisions about adopting MyUni within Commerce.

In November 2001 – Michael Gerrard reported to the School Board on MyUni and whether, and to what extent, to adopt it.

Recommendations which were adopted by School Board:

- Issues with SIT were an issue
- Instability with the platform – coping with larger loads and introduction of Version 5.5
- saw a moderate risk in adopting for all courses in Semester 1 2002 onwards
 - Michael Gerrard and Scott Henderson (Financial Accounting 2) volunteered to use it in Semester 1 2002
 - A one-off SIT course and a one-off local course were piloted in Semester 1 – generally reported favourably – SIT issues were the major issues

Scott and Michael reported that:

1. they continue to get strong admin and technical support
2. students are comfortable with it
3. encourage Semester 2 [2002] staff to use MyUni as standard platform but no compulsion to use it – about 75% have nevertheless adopted MyUni.

They did not carry out formal evaluations as such of the parallel systems.

There were semi-formal evaluations – through standard SELT – with open ended questions asking for comments on MyUni– the principal comment was about after-hours access to computers.

Comments on using MyUni

- It's cumbersome to use MyUni as an Instructor:
- The Gradebook is unbelievably slow and clumsy
- The spreadsheet view of the class takes up to a minute to upload
- Cannot use it to enter data
- To add a new assessment item is too time consuming

Many staff would enter material on an Excel spreadsheet

- would like to cut and paste into the Gradebook;
- It is undesirable to have many operators (Control Panel Status) when operating the Gradebook

Due to this clunkiness, Commerce now provides a results list, which is printed out and displayed. It is sorted for students' ID numbers for de-identification.

A particular issue for Commerce is PeopleSoft as Commerce enrol students directly into tutorials and workshops. Eg with 11 tutes and 2 lectures in a Course, the Course appeared 13 times on the Staff Home Page whereas students saw 2 instances.

This is a major issue for a business process between MyUni and PeopleSoft.

General concerning issue – the ubiquity of the availability of PowerPoint slides seems to have led to increased non-attendance at lectures.

<ul style="list-style-type: none"> • If Lecturer inputs PowerPoint slides on MyUni students somehow believe that they do not need to go to Uni • Significant minority therefore skip classes <p>Although it's a misunderstanding and re-education is the answer – lecturers are now not making PowerPoint slides available, to encourage attendance.</p> <p>As a School they are largely past proselytising to non-adopters:</p> <ul style="list-style-type: none"> • They suspect people who have never used a website for teaching would see MyUni as centrally supported; why should students have to use a parallel system when MyUni is working well; question of uptake to be resolved within the Schools and Departments – not one for central management.
<p>How online technology is used</p> <p>Michael Gerrard and Scott Henderson (Financial Accounting 2) volunteered to use MyUni in Semester 1 2002. Rollout in Semester 2 to 75% approx of available courses.</p> <p>A one-off SIT course and a one-off local course were piloted in Semester 1 – generally reported favourably by staff and students – SIT issues were the major issues.</p>
<p>Factors identified</p> <p>Results of MyUni usage were encouraging and students liked it. Recommended widespread adoption in School. Issues with SIT remain. Issues of non-attendance at classes remain.</p>
<p>What needs to change</p> <p>Administration processes re enrolment, SIT, Course names, casual staff, admin, spreadsheets (Gradebooks)</p> <p>Standardisation of all Usernames and Passwords</p>
<p>Conclusions</p> <p>As a School they are largely past proselytising to non-adopters:</p> <p>They suspect people who have never used a website for teaching would see MyUni as centrally supported; why should students have to use a parallel system when MyUni is working well; question of uptake to be resolved within the Schools and Departments – not one for central management.</p>
<p>Case study – how MyUni could be used and is not being used at the moment</p> <p>The 25% of the Commerce School not using MyUni could migrate their material from Online Adelaide or their School delivery site to it or come on board from non-user status.</p>

Addendum 25 May 2003

‘For Semester 1 2003 I think almost all Commerce courses are using MyUni to publish copies of handouts, and some publish PowerPoint slides’.

5 Mr Peter Hawryszkiewicz

Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide	
Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002–2003	
Interviewee/s Peter Hawryszkiewicz	Contact Peter Hawryszkiewicz Computer Support (IPD Systems Pty Ltd) in School of Architecture, Landscape Architecture and Urban Design Location: Archtctr/564a Position: Computing Consultants Telephone: 8 3035978 Fax: 8 303 43677 Email: ipd@arch.adelaide.edu.au
Interview on 10-09-02	Where Level 5 Architecture / 564a
Main points: background IPD Systems provides a service as computing consultants to Architecture and Geology both of whom who use MyUni. In IPD's opinion, MyUni introduces a little bit of reliability into the whole education loop. <ul style="list-style-type: none"> • MyUni is very reliant on the IT sector • IPD as such have no input into server reliability – they only work with 2 Departments As outside contractors IPD are able to send on messages from ITS but are specifically excluded from membership of the various planning committees which ITS convenes; for example, when ITS were thinking about centralising IT services IPD were excluded from committees. <p>In Architecture and Geology people fall into one of several groups:</p> <ol style="list-style-type: none"> 1. People who can handle technology anyway – they have no hassles with a system like MyUni – people like Assoc Prof Rob Woodbury and Assoc Prof Pat James. 2. People who are less confident: <ul style="list-style-type: none"> • Do it and make mistakes – then prefer not to do it • Need someone they know, trust and can rely on – hand holding • They would then adopt more readily – IPD have seen instances of this. IPD have found that with the centralised IT services staff cannot necessarily build a relationship with one person. <ul style="list-style-type: none"> • a lot of money has gone into technology but how much money has gone into helping people? • 10 years ago computers made a real impact in universities: <ul style="list-style-type: none"> ○ put a computer there – people wouldn't use it ○ they needed time, exposure (visibly see it working not just available to use) and the realisation of the tail enders that they CAN survive with computers because specifically they observe others getting over the 'hump'. The support varied immensely from area to area re support from self-learning to formal in-house to support for external courses.	
How online technology is used Architecture and Geography use it for MyUni	
Factors identified A lot of money into technology but HM money has gone into helping people? A centralised ITS militates against academics forming a relationship with 'a helper'.	
What needs to change The culture of no hands-on qualified support from when you go back to your computer after the MyUni	

training sessions. Need time, exposure and realisation that you can survive with MyUni as you have observed others getting over the hump of commencement.

Conclusions

Look at the 10-year-old model of introducing computers for a clue about how to introduce MyUni.

Case study – how MyUni could be used and is not being used at the moment

6 Dr Patrick James

<p>Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide</p>	
<p>Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002-2003</p>	
<p>Interviewee/s Dr Patrick James [PJ]</p>	<p>Contact Dr Patrick James Deputy Head Geology and Geophysics Location: Mawson/G09a Tel: 35254 Fax: 8303 4347 Email: patrick.james@adelaide.edu.au</p>
<p>Interview on 08-10-02</p>	<p>Where Geology Mawson G09a</p>
<p>Main points: Background In 1993–94 Pat James started using www In 1995 as the Associate Dean (T and L) for Science Faculty Pat had the brief to introduce ICT into the Faculty which involved:</p> <ul style="list-style-type: none"> • Upgrading hardware • Establishing teaching suites • Acquiring software • Establishing training – workshops (for academic staff); employed Ian Roberts and Rick Barratt to develop academic staff and LCOs. <p>Everyone was learning at the same time.</p> <p>PJ looked at CAL Courseware – eg CD-ROMs, software packages. PJ attended ASCILITE, ALT network, EduCom 1995–99.</p> <p>Ian Roberts was the driver of the point of view that the web was the obvious place to bring all this diverse digital material together and purvey it.</p> <p>Pat had already produced courseware – had a new project to develop a web template for putting teaching materials on the web. He adopted Lotus Notes, purchased a licence. Ian began to author Adelaide Science Online</p> <ul style="list-style-type: none"> • 1996–97 – 1 year project • 1997–98 – launch <p>‘The only way to evaluate was in the classroom with the enrolled cohort’.</p> <p>Third-year Structural Geology launched 1997 – web-based. They:</p> <ol style="list-style-type: none"> 1. cancelled lectures – had no lectures at all 2. booked to teach it in the computer lab 3. ‘turned it from a lecture / lab session course into a ‘lectorial’ – a 6-week module during which with Ian Roberts and I transferred every piece of pre-existing teaching material’: <ul style="list-style-type: none"> • PowerPoints • course notes • practical materials • 5000 scanned slides <p>There were problems with the software in that the embedded links were not visible and I used ‘copy and paste’ into a template to transfer materials The T and L ‘experiment’ did not work in 1997:</p> <ul style="list-style-type: none"> • Students ‘hated’ it 	

- Students revolted (progressive revolt – emails from the class from Week 3)
- Students said that I was paid to teach and not to sit them in front of a computer – ‘We’re not learning, you’re not teaching us, how will we pass the assessment’ – exam, assessment was still an exam – it was unchanged.
- Another reason was the hardware – computer lab had no support, trying to use a PC/Mac cross platform with no IT support and an LCO who was very personally opposed to IT in L and T.
- Computers crashed, network ran slowly, frequently whole network crashed, working 2 students to a computer in labs.
- In Weeks 3–6 I ‘turned them around’ through my powers of persuasive argument – being able to use electronic resources + having computer skills of the discipline area are skills of the present and the future which were not otherwise available in the University at that time.

Pat realised that some problems of the course were that:

1. it was intrinsically boring
2. it removed the dialogue which had previously existed to explain the concepts

In 1998 in the second iteration:

Overcame this disability by making it more interactive:

- Wrote a questionnaire for every lectorial (a Word document which was a questionnaire on the material)

Conclusion re the Course (not about an LMS)

- ‘It was just too hard, I did it for 2 years, 1997 and 1998, then I just stopped.’
- Aims of the course could not be achieved through this mode.
- skills in Geology are vital discipline area skills – not able to develop them in this mode.

In the **late 1990s** PJ also participating in a high level of University-wide strategic planning.

Institutional support was lacking for the trial and pilot scheme of Adelaide Science Online, which was launched end 1998.

Adelaide Science Online became Adelaide Online.

Suddenly MyUni appeared in Semester 1 2001. ‘I love it’. Against a background of developing and pioneering Adelaide Online MyUni’s benefits of MyUni are that it is:

1. easy
2. transportable across the whole University
3. can attach PowerPoints
4. very much like the integration – use it to communicate, use Announcements, and emails.
5. Have used all the possibilities ‘very little’.
6. Would like to use the Discussion Board but worried about the intellectual effort to organise and mount it and the students’ consistent use of appropriate language, as it is ‘all there online’ whether interacting with them synchronously or asynchronously.

But:

1. I cannot transfer my already developed 1000+ web pages into MyUni (cannot be done technically)
2. I am a ‘lone wolf’ in this Department
3. I have received no staff development in Word, PowerPoint, Excel, drawing packages.

Evaluation

Students love me using the Announcements

PowerPoints are too big – 20–30 Mg – Adobe software to minimise is missing and time is the missing element to rectify.

Videos are too big – 98 Mg video to browse to MyUni was my first endeavour.

All teaching and learning initiatives published with Ray Peterson; eg ASCILITE 1995

How online technology is used

In the Department MyUni adopters are:

- Young
- Enthusiastic
- Technologically literate

Confident users of technology; eg VRML. They have a geology server and their own website

<p>The LCO is due to go to ITS in December 2002 Mac users are in the majority Geology have just abandoned their own email system</p>
<p>Factors identified Adobe software is missing from PCs and Macs to allow staff to produce own pdf material. Time is the missing element to rectify anything wrong in MyUni and develop new staff skills The impetus for personal change to extend teaching programs in a University bent on sacking people is zero. (We have lost 8 staff in past 2 years and replaced with 4–5 lecturers.)</p>
<p>What needs to change Time for staff development Software availability and training Computer multimedia development</p>
<p>Conclusions Pat wants not to feel peripheral in the development and maintenance of a MyUni site – Department needs training and IT, software and placing digital materials online support for existing staff.</p>
<p>Case study – how MyUni could be used and is not being used at the moment Staff members who want to be MyUni users (new users or use more features) – new user has no skill of multimedia relevance and existing users have no time or support to allow them to re-author courses or develop them. No institutional support.</p>

7 Eddie Palmer and Mark Bailye

Interviewer Dr Susan Shannon Learning and Teaching Development Unit The University of Adelaide	
Title Factors in non-adoption of MyUni by academic staff at the University of Adelaide Teaching Development Grant 2002-2003	
Interviewee/s Eddy Palmer and Mark Bailye	Contact Eddy Palmer Position: IT Manager in charge of Curriculum Mark Bailye Position: Curriculum Development Officer Tel: 8222 4445 Fax: 8303 6225 Medical Education Unit Location: RAH Eleanor Harrald/532 Email: edward.palmer@adelaide.edu.au Email: mark.bailey@adelaide.edu.au
Interview on 08-10-02	Where Medical Education Unit (MEU) RAH Eleanor Harrald/532
Main points: Background Q: Who in Faculty of Health Sciences is using MyUni? A: David Foley & Robyn Clarke in Clinical Nursing are MyUni adopters. The Medical School is an institutional non-adopter of MyUni, as it has its own system. The Dental School have an interest in MyUni; the use of which will be expanded in 2003. AMC: <ul style="list-style-type: none"> • accreditation visit and report in mid-1999 • 3 years ago the AMC asked for Medicine to have an expanded online presence and to have that presence in curriculum and a web page. The Faculty had a web presence. • As accreditation was required the instigation of an online presence was partially 'political needs' born. It was clearly 'perceived as a learning need'. It was felt important that students not spend too much time in lectures taking notes, so online course delivery would be of benefit. By 2000 there was major curriculum redevelopment for undergraduate medicine and the new 'Curriculum 2000'. 1/2/3rd year – problem-based learning course taught in Medical Building South	
Computer availability 60 PCs in computer lab for students in the first 3 years. 22 local computers for years 4–6. As a rule the students do not go anywhere else for their computer lab, except fourth years, who do not go to the Medical School (whilst in 6-week placements in hospital/rurally) and if so do it at RAH.	
Computer access Polling shows that on 2001 data 90% of years 1–3 have home computer access and 100% of them www access. But their modem access is inadequate for videos and wholesale downloading of images.	
Managing www with uploading material from lecturers Unless lecturer has pre-prepared before the lecture by emailing the PowerPoint 2 days previous, students are on their (lecturer's) backs immediately about access to the learning resources. I asked why this was necessary and the answer was that it was because this usually yielded better results than formally (asking for materials) through MEU.	

How online technology is used

'Curriculum 2000' grew with the curriculum expansion.

2000 was fully online for first-year students with superficial support for higher year students

2001 was fully online for first and second-year students. Also supported a selection of external attachments for sixth-year students.

2002 was fully online for 1/2/3rd years, fourth-year in hospital, and sixth-year. Also supported a selection of external attachments for sixth-year students.

Courses are corporatised, with visual identity standards of the U of A utilising their web page designs – but NOT MyUni portal.

Their MEU course is password protected and verified against the ldap.

MEU site features

Bulletin Board – same as Announcements in MyUni (staff only posting)

My Details – Student can change recorded details
Localised to the students
Students can say who in the current, enrolled cohort may have access to their details.

Timetable – Unique to each student
Relates only to the medical curriculum

Resource Sessions = like Prac notes

Students have 2–3 days to download and print them.

What's New = When a student logs in they have a display of all new resources since the last time they logged in. The old ones are arrayed in reverse chronological order.

Discussion = Asynchronous chat room – student resources not staff resources

Student Search = Group internal groupings

Evaluation = Online evaluations. Typically students take staff's word that no contravention of email rules occurs and that it will always remain confidential.
Use active server pages (ASP) to deliver and receive a 95% response rate to all teaching questionnaires with MEU.

Course Material= pdfs of any files browsed

Book Review = eg Assessment tasks using online Journal Club
Utilises a Discussion Group to talk, then a digital drop box.

Contact People = students can email staff. Can email each other through Discussion Board or, if they make their addresses available in My Details, straight to their email address.

My Learning = can look back through all the current and previous (years') sites.

Factors identified

- Experience in the Medical School was that the uptake of online learning by students was quite slow.

The finding in 2000 was that students had not been given instruction in how to use the system. So in 2001, a Lecture and 1 Practical session (3 hours of student contact time) were devoted to online learning in Week 1 (on Days 1,2,3). Checked everyone's logon. **Evaluation** on the benefits of this process: found that there were far fewer non-logons. They used questionnaires on teaching and delivery: have not yet analysed and published them. Kept a database of logons. Provided online questionnaires.

- MEU counsel students that if they want material online *they* need to ask for it immediately as small modules are delivered by each academic staff member. Their reasoning is that for completeness as a learning tool all material needs to be online. Staff respond better to students' requests in many instances that to MEU requests for material to browse online.
- Copyright monitoring rules have decimated online learning resources available for students.
- AMC have gone through the online course on a couple of occasions. (AMC is a driver for online delivery.)
- The course is organised as PBL cases – and then the age-in-place calendar takes care of what every student's calendar is each day.
- Potentially MyUni and BlackBoard licensing issues interrupted the ability to develop a work-around solution (to the 2 or 3 logons students needed to use if they were to access both systems) so that students could still use the MyUni Portal. (This was important but not the major issue (rated 4/5.))

- As a www learning environment the MEU learning environment is well developed; continuing in its development; integrated for Medicine.
- MyUni was first mentioned in 2001:
 - Effectively they were already done with developing their MEU site.
 - Infrastructure already in place.
- MyUni doesn't support some/most of the things we've done.
- The interface is better in the system we have utilised – the levels of the nesting structure.
- Have GRAVE doubts about the infrastructure (to support MyUni) – we have had only one outage in 2 years. The lack of confidence derives from the MyUni arrival process (no consultations etc) + support.

What needs to change

Discussions about use of MyUni by the Medical School were held over a very long time. The issue was the need for students to log on to MyUni as Netscape users, with a MyUni password; and then the need to log on to a different system (MEU) site for learning.

Could not integrate the two. ITS said that 'it couldn't be done'. Potentially MyUni and BlackBoard licensing issues interrupted the ability to develop a work-around solution (to the 2 or 3 logons) so that students could still use the MyUni Portal. Now use an MEU portal.

Conclusions

Factors in non adoption:

- Interface issues – doubling up logons and not using the MyUni Portal (rated 4/5)
- Functionality issues (rated 5/5)
- Institutional support issues (greatly improved in recent times)
- Conceptions of how learning happens in medicine and squeezing it into MyUni, as structures of how we do things and MyUni are opposites.
- Early adopters in MEU site. The MEU site is well supported with money, staff and equipment and software and highly integrated into the Medical School learning environment.

Case study – how MyUni could be used and is not being used at the moment

Medicine essentially has a parallel system to MyUni

Appendix 4 Categories used for open-ended questions

For all the open-ended questions, final categories and their codes are given in bold and the original categories and codes are listed beneath each final category. The same final codes were developed across the open-ended questions as far as possible.

Question 15: Please elaborate on the above [refer questions 13 and 14], or other factors in relation to your decision about adopting web-based teaching

Time / workload	100
Need time to learn/develop skills	16
(Time, effort, money) pressures of other duties, workload	12
Competing demands on time, diminishing resources	13
Takes (too much/more) time to develop web materials	14
Need time to reconceptualise course / develop (good) materials	17
Training / staff development	200
Lack of staff training /need (more) training / (or haven't had training)	10
Skills/ knowledge	300
Respondent lacks (needs more) experience / needs knowledge	4
Lack of staff skills	11
Support	400
Support needed	23
Admin support needed	40
IT support needed	39
Policy / management support	500
U/dept policy is needed to support it	15
Tools/ wbt system	600
Need other functionality (eg, other language text)	38
Infrastructure	700
Lack of IT infrastructure/facilities (Hware, softw, pools) prevents use	24
Problems with integration with Uni admin system	33
Quality / benefits / outcomes concerns	800
Benefits not clear/not demonstrated	30
Quality of learning is lower	8
Paper more effective/cheaper	32
Learning matters; platform doesn't	5
Students	900
Would need to ensure equity of access (eg for remote or honours students)	35
Difficult / imposs for (some) students to get access (to the web)	20
Would need to ensure low cost for students/cost concerns	36
Students prefer/value f2f/ apathetic about web	3
Some courses / aspects of courses	1000
Suitable for some aspects; eg, theory, not practical. Ie, as supplement	34
Web should be used only for matters where f2f not essential (lect notes, exam prep, admin of course)	31
F2f contact essential for my course	1
Perceptions of web based teaching	1100
Respondent prefers/values f2f / doesn't believe in wbt / teaching is about people	2
Web based teaching is cumbersome and confusing for the student	37
Not own decision	1300

Not respondent's decision	6
Quality: positive perceptions of quality of web based learning	1400
Is likely to improve teaching	7
Flexibility	25
It's good for me/ +ve non specific	28
Benefits for students	1500
Increased student confidence	26
Students enjoy it	27
Other	6600
Motivation & interest are important / needed	21
Other	66

Question 16: What needs to change so that you would use web teaching tools?

Time / workload	100
Demonstrated that wbtI decreases workload for staff	4
More time to master skills / time release	5
Need more time, lower workload	8
More time to set up, trial, develop	9
Training/staff development	200
More / proper / different training / or differently organised	1
Staff training setting up	2
Staff training/ SD in using for teaching	3
Skills/ knowledge	300
Need more knowledge/skills	17
Support	400
More IT support needed	12
More support in dept/school	18
Need admin support	14
Need more competent IT	26
Need support not specified	15
Policy / management (includes \$)	500
(More) support, understanding, from management; consultation with staff by mgt	6
Funding	16
Higher priority needed on the part of the University	27
Tools/ wbt system	600
Better tools /systems	7
Need different capacity/functionality, eg, image library	13
Infrastructure	700
Infrastructure needs to be > reliable (eg, servers)	36
Integration with the uni admin system / Peoplesoft needs to be better	19
Quality / benefits / outcomes concerns	800
Demonstrated benefits for learning outcomes/effectiveness	22
Demonstrated benefits for students	23
Students	900
Better access for students (pools, uptime, 'other' students, eg summer)	21
Needs to take less student time	24
Have different students (eg, disted)	11
Students need to change; ie to use the tools (they don't all)	35
Negative perceptions of web based teaching	1100

Nothing; I would not/ don't support/use wbt	32
Wbt is of limited / no value	25
Copyright	1200
Copyright issues are overwhelming & discourage good practice	10
Not own decision	1300
Would use only if U/dept required	34
No change needed	2000
Nothing; it's OK as it is	33
Don't know	9900

Question 23: What are or were your reasons for using web teaching tools? (record key words or phrases)

Time / workload / efficiency / convenience benefit	2001
Ease of /easier / guaranteed communication with students, communication any time, efficient, rapid	1
Easy/efficient admin of course	2
Distribute content easier, more; ease of delivery	3
Prepare material/course early	7
Lighten staff workload (assessment, classroom teaching) save effort	4
Good organisation tool / manage assignments	8
Saves time in long run	42
Efficiency (general)	29
Convenience/flexibility / ease	22
Reduce paper use / handouts / photocopying	5
Because of large classes	20
Training/ staff development	2002
As a result of SD/training	34
Skills / knowledge / experience of using	2003
To evaluate / use / experience the technology/assess its potential	24
To get the experience/learn to use it...	6
Reasons outside own decision	1300
Students expect /demand it/pressure from students	10
Not own decision/expected by management / required to do it	21
Funds for other mode reduced or removed	43
Limited use (by respondent)	36
Political decision (re U management expects)	25
Peer pressure / other UA pressure	26
Fashion	27
Quality: positive perceptions of quality of web based learning	1400
Better course quality	31
Student benefits	1500
Students can work when /how they like (modes)	11
So students can learn to use the tools/ experience of the teaching mode / get comfy with computers / use other media	12
Ease of /easier communication between students (eg, different locations)	13
Easy, improved access to course by students	14
Makes students more responsible/puts onus on them	15
Saves student notetaking / effort in lectures	17
Increased student participation / equitable contribution / confidence	19
Equity	28

Particular function / feature	1600
(Convenient) For announcements/course info	30
Feedback on assignments (gradebook)	33
Email	35
Tutorials	38
Assessment	39
(Easy) Links to resources	40
Interactivity / multimedia	9
Particular student types/ modes / discipline	1700
Use for distance education	41
Suits some (types of) students eg, part time, remote	18
Use obvious in particular discipline (eg, computer science)	23
To attract particular student group/s (eg, external)	32
As an adjunct to classroom teaching/learning / supplement for f2f	16
Other	6600
Other	66

Question 42: Please comment on these or other impacts of web-based teaching on your students

This question follows questions 26–41, which ask for respondents’ views on the impact on students of various issues relating to web-based teaching.

Support	400
More IT support needed	24
Infrastructure, systems limitations	700
Insufficient computers / access problems on campus (computer suites booked out / locked)	13
System unreliability/down / limitations	16
Print materials no longer available, some students would prefer print	14
Problems trying to print (eg pdf, at partic location)	17
Cost of printing a concern for students	15
Quality / benefits / outcomes concerns	800
Little or no benefit for students	21
Quality of learning is reduced (eg, no fun, poor interaction)	29
More students drop out / do badly	25
Positive impacts for students	1500
Students like it/love it	2
Student independence is increased	10
Better student access to course admin (eg, All students receive announcements)	11
Easy student access to archived materials	12
Attendance is encouraged (by availability of course content & information on the web)	26
Ease/flexibility of communication for students	4
Decreased time management for students	1
Some students/courses / modes	1700
Some students benefit, not others	20
Suits some learning styles / types of students (not others)	22
Some (groups of) students can't access the web-based materials in MyUni (eg, hons, other U campus)	23
Equity issues listed are important for some students	27
Good resources for particular groups (eg, international, language learning)	3
Student behaviour	1800

(Some) students waste time	18
(Some) students avoid contact, interaction with staff / don't hand up assignments/ miss lectures/ don't take notes / don't access MU often	19
Students are scared of online learning	28
Other	6600
Other	66
Don't know	9900
Don't know	99

Question 64: Please comment on any of the above as issues for your web-based teaching, and/or other issues

This question follows questions 45–63, which ask for respondents' views on the impact of web-based teaching on their teaching and other activities.

Time, workload	100
Greater course development/preparation time (than traditional methods)	1
Materials need reworking each year = more preparation time	2
More time spent on notices/announcement	3
More work/more labour intensive	6
More time spent explaining/teaching/delivering	5
More time spent individual communication with students	7
More time, not specified	8
A time/effort cost to learn the system	4
Time/work pressure prevents more/better use	10
Time on content preparation higher initially (likely to decrease with the years)	24
Skills / knowledge	300
Need > experience (in some aspects)	12
Support	400
Respondent has no admin assistance	11
Need local (ie, within department or school) (hands-on) IT assistance	13
Tools, wbt system	600
Assessment is more difficult; not a good assessment tool	9
Online evaluation is difficult	33
Infrastructure	700
IT infrastructure inadequate / system access difficult for staff	34
Quality / benefits / outcomes concerns	800
Can't gauge how students are going; whether they understand	30
Web teaching does not add benefit	32
Copyright	1200
Copyright problems mean fewer will use it	14
Benefits: time, workload, efficiency	1400
Reduced preparation time	20
Reduced time on admin	21
Easy to archive materials	22
Time saving on communication	23
Good communication tool	26
Good for info, as a database	27
Students communicate with staff better / good communication	25
Some students/courses / aspects	1700
Web only supplement; can't replace f2f	31

A particular course / part of course not suitable for wbt	35
Other	6600
Other	66

Question 71: What teaching or related activities would you like to be able to do with MyUni?

Currently available basic activities	2005
Communication	1
Time reminders (= announcements)	3
Distribution of information /materials / lectures	6
More advanced features / activities	2006
Assessment	2
Formative / summative tasks (not necessarily assessment)	16
Better assessment capacity needed (access, more flexible use by teacher)	10
Easier, more flexible development of content	12
Discussion groups / chat, or use more	19
Tutorials	4
Interactivity (eg, java)	14
Multimedia (high qual images, radio/TV/audio)	15
All/ most/more things	8
Course admin, management, evaluation	2007
Administration of courses	5
Online evaluation of course	17
Use to reduce paper	21
New teaching challenge	2008
Allow self paced learning	11
Students' own web pages	13
Negative perceptions of MyUni	1100
None, wouldn't do anything with MyUni	20
No change	2000
What I'm doing now / it's OK as is	18
Some students/courses	1700
A particular course mentioned	7
Use for particular students (eg, distance)	9
Other	6600
Other	66
Don't know	9900
Don't know	99

Question 72: What needs to change so that you would use MyUni?

Workload / time	100
Demonstrated decreased workload for staff	4
More time (release) to master skills/use effectively	5
Time for training	9
It is too time consuming	29
Need more time to prepare material	44
Training / staff development	200
More training unspecified	1
Staff training setting up courses	2

Staff training/ SD in using for teaching	3
Skills / knowledge	300
More MyUni skills / learn more re MyUni	13
Need > IT knowledge	16
Support	400
More support / assistance – other	15
Need > IT support IN dept/school	18
Need a competent IT service	28
Policy / management	500
The University needs different priorities	19
More support, understanding, foresight from management / dept	6
Tools / wbt system	600
Better tools / system/ different functionality	7
More staff control within MyUni over student access or other staff access	14
Infrastructure	700
Better computers for staff	12
Better IT infrastructure	27
(Faster/better) staff access from off-campus (w/o dialup)	17
Fix problems with integration with Uni admin system	36
Quality / benefits / outcomes concerns	800
Demonstrated benefits for learning outcomes /effectiveness	22
Demonstrated benefits for students /effectiveness	23
Students	900
Have different (type of) students (eg, disted)	11
Earlier access by all students (timing)	20
Better access for students (pools, some students)	21
Better access from home for students	24
Training for students	25
If all students used it I would (students need to change)	26
Integration with another system	2009
Move my department's pages/system to MyUni	31
Integrate MyUni with current department system	34
Negative perceptions of web-based teaching	1100
Personal attitude to web-based teaching	8
Copyright	1200
Copyright issues overwhelming & discourage use / good practice	10
Negative, general	1300
Nothing: I won't use/don't support	32
Would use only if required to	35
No change needed	2000
Nothing: it's OK / good as it is	33
Other	6600
Other	66
Don't know	9900
Don't know	99

Question 73: Do you have any other comments about web-based learning and teaching at the University of Adelaide?

Time / workload	100
Time consuming to set up / early (but worthwhile)	3
Wbt good, but no time to learn	6
Most academics are too busy, conservative, no time	15
Need time & funds to set up / improve content / delivery	24
Too much time spent on course admin	28
Training / staff development	200
U needs to provide > SD re L&T	21
Support	400
ITS out of touch with staff needs / need more IT support	2
Must have hands-on/local IT support	4
More support not specified	8
Policy / management	500
Should not be obligatory (for staff)	27
Change the name MyUni	10
Tools / system	600
Enhanced/different features needed (in MyUni or on web)	13
Need fewer bugs/difficulties/faults with system	1
Better interaction student–teacher needed on web	16
Infrastructure	700
Problems with integration with Uni admin system / PeopleSoft	36
Better infrastructure needed	30
Access for diff groups/ at diff locations must be improved	22
Better equipment needed on campus (for staff)	5
Need fast net access from home (staff)	7
Quality / benefits / outcomes concerns	800
Concerns re quality of education	26
(More) evaluation of effectiveness needed / more evidence that it's effective	14
Must be used only where as good as or > than f2f	25
Some courses / aspects of courses	1000
Useful / good only as a supplement / can't replace f2f	19
Negative, general	1100
It's a waste of \$, resources / IT not everything	23
Not a good thing.. lazy students, lazy staff	20
Positive comments, general	2010
It saves trees/paper	9
MyUni is good / MyUni team is doing a good job	12
Students are enthusiastic	17
There are +ve outcomes for students	18
Time will see more people using web-based teaching	11
Other	6600
Other	66